

TWO NEW LINES MAKE DEBUT AT RMA SHOW

(Concluded from Page 1, Column 1)
washers) which is especially garbed for the occasion.

The Williams Ice-O-Matic show room, at 185 N. Michigan, under the direction of W. A. Matheson, is welcoming R. M. A. delegates, as is the new modernistic Bohn show room at 300 N. Michigan, under the direction of William A. Biel, and the Stover Co., Frigidaire distributor's show room at 157 N. Michigan, under the direction of H. L. Bartholomew.

Ranging in price from \$79.50 f. o. b. factory for a 3.2-cu. ft. model, to \$189.50, the new Clago line of electric refrigerators presents a 4-cylinder, rotary, direct-drive, hermetically-sealed compressor—called the "Pul-sa-tur"—which has the appearance of a filled-in horseshoe with fin coils at the flat end. Ray Killner is in charge of the Clago refrigeration department.

U. S. Radio Models

The U. S. Radio and Television Corp. hermetic refrigeration line begins at \$99.95 f. o. b. for a 4-cu. ft. net box and runs to \$169.95 for a 5½ net porcelain job.

Advertised are all-steel cabinets, a three-year guarantee, direct-drive reciprocating hermetically-sealed compressor, positive air cooling, Mullins evaporator, and Ranco temperature control. H. Greenwald is chief refrigeration engineer, and T. C. Whitehead is head of the refrigeration department.

Crosley's new \$89.50 box is being demonstrated at the show by Powell Crosley, Jr., president of Crosley Radio Corp., Neil Bauer, sales manager, G. H. Corbett, advertising manager, and F. E. Johnston, chief engineer.

In charge of the Stewart-Warner refrigeration exhibit are Charles W. Strawn, sales manager of the refrigeration division, I. W. Veeck, and G. Trefelsen.

Two New Spartans

Two new big models, as well as the complete Spartan electric refrigeration line, are being shown by Capt. William Sparks, president of Sparks-Withington Co.; Earl Brower, sales manager; Guy Core, advertising manager, and Representatives Harley Wall, James Melvin, Leon Fredericks, William Cave, Frank Drake, J. Raymond Dade, and Carl Mains; Dwight Knupp of the engineering department; and A. M. Crawford and L. W. Johnson of Canadian Spartan.

Fanny R. Wurlitzer, president of the Rudolph Wurlitzer Mfg. Co., of which All-American Mohawk is a subsidiary, heads the Mohawk delegation, which also includes: President Eugene R. Farny; D. E. King, vice president; Ernest Petering, advertising manager; Charles Green, assistant advertising manager; J. H. Wimberly, Jr., western sales manager, and E. R. Kuhn.

Factory Delegations

Factory delegations with headquarters in the Congress Hotel include:

Norge, represented by Maj. Howard Blood, president; C. D. Donaven, treasurer and assistant general manager; John H. Knapp, vice president and director of sales; R. E. Densmore, western sales manager; M. G. O'Hara, eastern sales manager; J. A. Sterling, sales promotion manager; D. C. Roads, advertising manager, and field men Fred Fleischer, J. R. Blotcher, George Pizzaro, Ed Oliphant, and W. C. Rowles.

Majestic, represented by John Ditzell, sales manager; Earl Hadley, advertising manager, and V. E. Vining, assistant sales manager.

Buckeye, represented by President William Schweitzer and factory representative Murray Bernard; Sanitary, C. J. Hohensee, sales representative; Servel, C. A. Miller, sales manager, W. Paul Jones, advertising manager, G. E. Bloom, P. Pratt, W. Evers, and E. W. McIlvaine.

The elaborate Gibson show room is manned by Frank Gibson, Jr., vice president; W. R. Marshall, sales promotion manager; Frank Delano, sales manager; Jacqueline Frost, home economist; Howard G. Seldomridge, and George Farrin, district managers; Elmer Born, service manager, and Mrs. Meredith Dick. Miss Frost is conducting cooking demonstrations there all week.

Next door at the Jewett exhibit may be found President Edgar Jewett; Jack and Myron Studner of New York City (Studner Bros. has charge of distribution of Jewett electric refrigerators) and their sales manager, Herman Smith; Walter Zweifler, Jewett distributor from Harrisburg, Pa., and J. D. Boucher, of Kellogg Mfg. Co. (maker of the compressors used in Jewett boxes).

ELECTROLUX OF SWEDEN REPORTS PROFIT

STOCKHOLM, Sweden—The Electrolux Co., Stockholm, has announced net profits for 1931 of 7,073,000 kronor, as against 8,042,000 of 1930.

A dividend of 8 per cent, as against 9 per cent for the previous year, will be paid by directors.

THREE ESSENTIAL SERVICES

for Refrigeration Manufacturers, Distributors and Dealers

- (1) ELECTRIC REFRIGERATION NEWS—*every week*
- (2) REFRIGERATED FOOD NEWS—*every month*
- (3) THE 1932 REFRIGERATION DIRECTORY AND MARKET DATA BOOK

COMMENTS OF READERS

"Liveliest trade paper in the merchandising field."
—W. D. Hostetler, Refrigeration Dept., Sunset Electric Co., 9th to 10th on Gilsan St., Portland, Ore.

"Indispensable to the trade."
—O. M. Williamson, sales manager, Benton Distributing Co., 69 E. Chestnut St., Columbus, Ohio.

"In a game that is being played as fast as the refrigeration business, I don't want to miss a single issue of your valuable paper."
—Leonard Warden, 122 E. Ninth St., Cincinnati, Ohio.

"We are very happy indeed to have the opportunity to get your paper so reasonable and know that we are all set until almost 1937."
—M. George Tigar, 213 Second St., Chelsea, Mass.

"We wish to congratulate you for the fine job you have done in collecting and presenting the statistical material in the Directory."
—W. W. Campbell, Distribution Division, General Electric Co., Cleveland, Ohio.

"Let me compliment your organization for getting up that splendid Directory. I hope that you will do this job each year."
—B. H. Morash, 3 Addison Ave., Rutherford, N. J.

"Received our Refrigeration Directory a few days ago, and it's worth many more dollars than you ask for it."
—Herman H. Bender, Carrolltown Battery & Auto Co., Carrolltown, Pa.

"We have just received our copy of the Refrigeration Directory and want to congratulate you on the completeness of this publication."
—W. W. Sieber, Advertising manager, Continental-Diamond Fibre Co., Newark, Del.

"I am a subscriber to eight trade papers now, but this has the most real 'meat.'"
—V. W. Collamore, 623 E. Mt. Airy Ave., Philadelphia, Pa.

"We have perused this book (1932 Directory) quite carefully, and were surprised to find such complete and detailed market information as is contained therein."
—Howard W. Rose, The Buchen Co., 400 W. Madison St., Chicago, Ill.

"I want to compliment you on this Directory, and I find it to be very valuable—in fact, during the short time which we have had it in our office, I have referred to the book, locating different concerns for six or eight different articles, and, in fact, have purchased several items directly through this Directory."
—Ed Friedrich, 1117 E. Commerce St., San Antonio, Tex.



Note—Combination rates are for United States only

COMBINATION OFFER No. 1

Electric Refrigeration News	Combination
1 Year — 52 Issues — \$3.00	Price
and	
1932 Refrigeration Directory and Market Data Book—\$2.00	Saves you \$1.00
\$4.00	

COMBINATION OFFER No. 2

Electric Refrigeration News	Combination
2 Years \$5.00 (Saves \$1.00)	Price
and	
1932 Refrigeration Directory and Market Data Book—\$2.00	Saves you \$2.00
\$6.00	

COMBINATION OFFER No. 3

Refrigerated Food News	Combination
1 Year — 12 Issues — \$1.00	Price
and	
1932 Refrigeration Directory and Market Data Book—\$2.00	Saves you \$1.00
\$2.00	

COMBINATION OFFER No. 4

Refrigerated Food News	Combination
1 Year — 12 Issues — \$1.00	Price
and	
Electric Refrigeration News	Combination
1 Year — 52 Issues — \$3.00	Price
\$3.50	
Saves you \$.50	

COMBINATION OFFER No. 5

1932 Refrigeration Directory and Market Data Book—\$2.00	Combination
and	
Electric Refrigeration News	Combination
1 Year — 52 Issues — \$3.00	Price
and	
Refrigerated Food News	Combination
1 Year — 12 Issues — \$1.00	Price
\$4.50	
Saves you \$1.50	

COMBINATION OFFER No. 6

1932 Refrigeration Directory and Market Data Book—\$2.00	Combination
and	
Electric Refrigeration News	Combination
Trial Order—17 Weeks—\$1.00	Price
\$2.00	
Saves you \$1.00	

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- ☐ Enter subscription to ELECTRIC REFRIGERATION NEWS ☐ 1 Year (\$3.00). ☐ 2 Years (\$5.00).
- ☐ Enter subscription to REFRIGERATED FOOD NEWS ☐ 1 Year (\$1.00). ☐ 2 Years (\$1.50).
- ☐ Send the 1932 REFRIGERATION DIRECTORY and MARKET DATA BOOK (\$2.00 per copy).

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E.R.N.—5-25-32

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Registered U. S. Patent Office

The business newspaper of the refrigeration industry

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THREE DOLLARS PER YEAR

TAYLOR FREEZER MAKES CHANGES IN ORGANIZATION

Sales Arrangement With General Severed By Firm

BELOIT, Wis.—The Taylor Freezer Corp., manufacturer of unit ice cream freezers and hardening cabinets, has recently undergone a reorganization and the exclusive sales arrangement, which formerly existed with the General Refrigeration Corp., has been discontinued, according to an announcement made by new officers of the concern.

Alexander Jager, formerly director and superintendent of the Absolute Con-tac-tor Corp., is now president of the Taylor Freezer Corp. Glen W. Hall is vice president.

David Fifield, assistant general manager; Walter Hellwege, secretary, and Charles Taylor, ice cream manufacturing consultant, who have been active with the Taylor Freezer Corp., remain with the reorganized concern.

Until recently, the Taylor freezer was designed exclusively for ammonia-type refrigerating machines. It has been altered so as to now be available for operation with any make of commercial refrigerating unit using methyl chloride, ammonia or F-12 as a refrigerant.

Distribution of Taylor freezers will be on a basis of direct-to-dealer or distributor of the type mentioned above, it has been announced. S. C. Gunnett, who has been with the Taylor Freezer Corp. for the past four years, and who was previously with the store fixture division of a large drug store syndicate, will be national field representative.

An increased production schedule, made possible by enlarged plant facilities and a new engineering personnel, has been ordered. L. E. Koch, formerly chief engineer of the Absolute Con-tac-tor Corp., has been appointed chief engineer of the Taylor Freezer Corp.

ST. LOUIS PLANS AIR CONDITIONING BUREAU

ST. LOUIS—A cooperative air conditioning bureau, modeled on the St. Louis Electric Refrigeration Bureau, may be organized here this summer under the sponsorship of the Union Electric Light & Power Co.

The power company announces that because air conditioning requires a great diversity in equipment and installation, it will do no merchandising in connection with the campaign, but will devote all its effort to developing the market, promoting sound standards in the industry, and helping manufacturers, distributors, and dealers to work out effective sales programs.

The plan involves a display and demonstration in the utility company's building, and a strong direct-mail campaign to insure a large attendance at the display.

HOLMES NAMED MANAGER OF SPARTON OF CANADA

LONDON, Ont.—G. A. Holmes has been appointed general manager of Sparton of Canada, Ltd., it has been announced.

With this change in personnel, the London plant is now 100 per cent Canadian, since the last key man sent from Jackson, Mich., the home factory, to train Canadian workmen in the various manufacturing practices, returned to Michigan the latter part of April.

NORTH CAROLINA LEONARD DISTRIBUTOR NAMED

WINSTON-SALEM, N. C.—The Clinard Electric Co. has taken the franchise as Leonard electric refrigerator distributor for central North Carolina, according to announcement from the Leonard Refrigerator Co.

B. C. Clinard is president, and Charles R. Clinard, vice president.

Nela Convention to Open Sunday at Atlantic City

ATLANTIC CITY, N. J., June 1.—Representatives of the nation's public utility companies will gather here Sunday for the fifty-fifth annual National Electric Light Association convention and exhibition.

No individual product exhibits will be held by refrigerator manufacturers, but an impressive display is being planned by the Electric Refrigeration Bureau.

For the first time, the public will be admitted to the exhibition and the business meetings.

Sessions of the convention will not begin until Tuesday, when Mayor Bacharach of Atlantic City will welcome the delegates, and J. F. Owens will give his address as president of the N.E.L.A. E. C. Cobb, chairman of the finance committee, will speak on "The N.E.L.A., Its Work and the Electrical Industry."

The first session will also include: report of committee on constitution and by-laws, R. F. Pack; treasurer's report, Edward Reynolds, Jr.; report of public relations section, D. C. Green; address, Charles F. Kettering, president, General Motors Research Corp.; address, B. F. Weadock, executive director.

Wednesday morning, P. M. Downing, vice president, will speak; D. F. Kelly, president of "The Fair," Chicago, will give an address; T. O. Kennedy, will give the report of the commercial national section, and E. W. Goldschmidt will give the report of the exhibition committee.

The third general session, Thursday morning, will be the Edison Memorial session, and will have the following program: address, Thomas N. McCarter; address, "What the Machine Is Doing to Mankind," James S. Thomas, Ala.

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FRIGIDAIRE LAUNCHES CONDITIONER DRIVE

DAYTON—Frigidaire air conditioning sales, "amounting to almost a barometer of weather conditions all over the country," are being made with the aid of a specially-planned campaign, J. C. Chambers, manager of the division, reported last week.

"Air conditioning sales effort must be aided by demonstration albums and direct mail pieces," Mr. Chambers said, "because of the fact that year 'round conditioners are too large to be carried about by the salesmen and because the selling of them is largely a matter of education at this time."

The air conditioning sales demonstration album which Frigidaire has designed traces the development of air conditioning, its functions, and the uses of Frigidaire's four-way units. Pictures of typical installations are included. The product section is in color with the different models shown in typical room settings.

Special direct mail pieces for house-

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KELVINATOR TO SHOW 15% SALES GAIN DURING MAY

55% of First Quarter Sale in Higher Priced Lines

DETROIT—Advance information on May unit shipments of Kelvinator and Leonard electric refrigerators indicates that they will be at least 15 per cent in excess of shipments in May, 1931, according to H. W. Burritt, vice president in charge of sales.

A recapitulation of sales figures for the first quarter of 1932 showed that for the first time in the history of the Kelvinator Corp., the higher-priced models outsold the lower-priced line for a quarter-period of operations. Standard and de luxe models accounted for 55 per cent of all sales for the first quarter of 1932, according to figures recently made public by the Kelvinator Corp.

For a similar period in 1931, the two higher-priced lines accounted for only 32 per cent of the total sales made.

A gain of 115 per cent was recorded in sales of the two higher-priced lines for the first three months of 1932 over the first three months of 1931.

KELVINATOR CREATES TWO NEW DIVISIONS

DETROIT—The establishment of two new divisions—a department store division and a national business department—has been announced by J. S. Sayre, sales manager of Kelvinator Corp.

A. H. Reinach will head the new national business department, which will contact the manufacturers of soda fountains, bottle cooling, the larger chain stores, and large industrial organizations. He was formerly manager of the National Users department of Frigidaire Corp.

V. J. McIntyre has been appointed manager of the department store division, which will establish department stores, large music houses, and furniture stores, as Kelvinator dealers. Mr. McIntyre was connected with the Kelvinator organization previously, from 1925 to 1931.

SPINNEY WILL DISTRIBUTE L. & H. RANGES

MILWAUKEE—A. T. Fish, vice president and director of sales for A. J. Lindemann & Hoverson Co. announces the appointment of B. H. Spinney Co., Norge distributor in Springfield, Mass., and Albany, N. Y., to distribute L. & H. Electric ranges in western Massachusetts and eastern New York.

Norge Distributors Take 'Mystery' Journey

CHICAGO—Norge distributors who attended the R.M.A. show and convention were treated to a "mystery" trip by officials of the Norge Corp., which landed them in Muskegon for 24 hours of festivities, including a trip through the Norge plant, a golf tournament, a luncheon at which public officials were speakers, and a banquet with special entertainment followed by a business session.

Gathering at the Congress hotel on the night of Tuesday, May 24, the distributors were given a "free pass" for the trip and then sat down at a dinner at which President Howard E. Blood, Vice President John H. Knapp, and Sales Promotion Manager James A. Sterling of Norge were the principal speakers.

Immediately following this dinner, the group was conveyed to the Pere Marquette special Norge train on which they journeyed to Muskegon.

After registration at the Occidental hotel in Muskegon on the morning of Wednesday, May 25, the distributors made a trip through the Norge Muskegon assembly plants.

Following the trip through the plant, luncheon was taken at the Muskegon Golf club. At the luncheon, the distributors were addressed by Mayor Martin Schoenberg of Muskegon Heights; Vice Mayor Vanderwerp of Muskegon Heights; Mayor Elmer of North Muskegon; George Branstrom, secretary of the Muskegon Chamber of Commerce; and John Bukuma, assistant secretary of the Muskegon Chamber of Commerce.

A golf tournament was held in the afternoon, and the winner presented with a silver trophy.

The day's activities were closed with a banquet and business meeting. Speakers at this meeting included President Blood, Vice President Knapp, Secretary C. D. Donaven of the Norge Corp., and officials of the Borg-Warner Corp.

HOTPOINT WILL OPEN SALES DRIVE JUNE 20

CHICAGO—The week of June 20 will be "Red Circle Week" for the Edison General Electric Appliance Co., Inc., maker of the General Electric Hotpoint range.

A special drive on Hotpoint range sales, with special advertising, store displays, window trims, banners, broadsides, etc., has been prepared for "Red Circle Week," while the nation-wide G. E. Circle radio program will also be used to promote the activity.

Three new models of Hotpoint ranges will be announced during the week. It is believed by the General Electric Co. to be the first time that an electric range manufacturer has ever announced a new range or series of ranges to the general public through national advertising.

Electric cookery schools in various parts of the country; a selling portfolio for distribution to sales outlets, will be

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REFRIGERATOR TAX RESTORED TO SENATE MEASURE

Excise Taxes Included As Finance Group Reverses Ideas

WASHINGTON, D. C.—The 5 per cent tax on mechanical refrigerators, which had been stricken out of the pending revenue bill by the Senate Finance Committee, was restored to the bill by the Senate last week.

Nearly all the provisions of manufacturers' excise taxes which had been included by the House of Representatives, were restored to the revenue bill, which is designed to raise \$176,000,000.

The tax on refrigerators, according to reports, "received Senate approval without debate and without a record vote." It is estimated that this tax, on the manufacturers' selling price, would produce \$6,000,000 in revenue.

The Finance committee, which had declared itself against the "nuisance taxes" on commodities, completely reversed its position, and returned to the Senate a new set of recommendations which resulted in restoring almost all of the House provisions for excise levies. Senate action on provisions included:

Toilet preparations, House rate of 10 per cent restored, but certain articles exempted.

Jewelry, House rate of 10 per cent restored, with exemption of articles selling for less than \$3.

Automobile parts and accessories, House rate of 1 per cent increased to 2 per cent, but tires and tubes separately taxed.

Sporting goods, House rate of 10 per cent restored.

Cameras, House rate of 10 per cent restored, with aerial cameras exempted.

Matches, House rate of 4 cents per thousand changed to 2 cents per thousand on wooden matches and one-half cent per thousand on paper matches.

Candy, House rate of 5 per cent re-

(Concluded on Page 2, Column 4)

NEBRASKA MEN HOLD ICE-O-MATIC MEETING

OMAHA—Stanley C. Bell, sales manager of the Ice-O-Matic division of the Williams Oil-O-Matic Heating Corp., directed a meeting of dealers and salesmen at headquarters of the Schmoller & Mueller Piano Co., distributor in Nebraska and western Iowa, recently.

R. W. Wrigley, western territory representative, Roger G. Wrigley, factory service engineer, and E. D. Marshall of the factory staff assisted in the presentation.

Dinner was served to the convention guests in the Omaha Athletic Club.

CURL APPOINTED REGIONAL MANAGER OF FRIGIDAIRE

DAYTON—L. W. Curl has been appointed manager of the Frigidaire western region, covering distributorships in Peoria, Ill.; St. Louis; Kansas City; Omaha; Sioux City, Iowa; Wichita, Kans.; Denver; and Billings, Mont. He succeeds P. K. Abry, who becomes district manager for Kansas City.

Mr. Curl joined the Frigidaire sales training division in 1926. He became a zone manager, and until his most recent promotion was assistant manager of the company's north central zone.

SCHMELING USES MAJESTIC IN TRAINING CAMP

KINGSTON, N. Y.—When Max Schmeling, heavyweight boxing champion of the world, entered his training quarters near here, he selected the Rose & Gorman Co., dealer selling Majestic refrigerators and Universal electric ranges, as his suppliers.

Pictures of Schmeling, and a life-sized poster showing a boxing match, were utilized by the company in a window display to announce the selection.

Gibson Entertains Radio Men



Visitors to the R.M.A. show last week in Chicago found Gibson's attractive exhibit a half block down Michigan Ave. from the Stevens Hotel. The men appearing above are (left to right): Elmer Born, service manager; W. D. Montgomery, Chicago; Cyrus Marvick, Illinois representative; Harry Moll, and L. V. Whitney, distributors; H. G. Seldomridge, Midwest manager; a Denver visitor; and G. M. Farrin, Middle East manager.



A REFRIGERATOR MOTOR MUST NOT FAIL



IT TAKES a refrigerator motor of the most dependable quality to meet the exacting requirements of water cooler service. That is why so many successful water coolers are powered by Delco motors. Delcos have met the test of time in every kind of refrigeration service. They are quiet. They carry a full-load continuously without over-heating. They meet all power company starting current limitations. If you are contemplating a change in your motor application, let Delco design a repulsion-induction or condenser-transformer type motor to fit your unit exactly. Delco offers you a basic design that has proved successful in millions of electric refrigerators. Individualized engineering of each motor type fits it exactly to its particular application. And Delco's production plan gears motor output directly with your manufacturing program and permits changes in design or quantities on short notice.

National field service for Delco Motors is provided through the facilities of United Motors Service Branches.

**DELCO PRODUCTS
CORPORATION**
DAYTON, OHIO

Senate Restores 5% Sales Tax

(Concluded from Page 1, Column 5)

duced to 3 per cent.
Cereal beverages, House rate of 2 per cent per gallon reduced to 1½ cents per gallon; grape juice, 5 cents per gallon; fountain syrup, 6 cents per gallon.
Boats, House rate of 10 per cent of manufacturers' selling price stricken out and a new license tax on an annual basis substituted.

Rubber, 2½ cents per pound on tires and 4 cents a pound on tubes accepted.
Telephone, telegraph, radio and cable facilities, telephone conversations: charge of 50 cents to \$1, 10 cents; \$1 to \$2, 15 cents; \$2 or more, 20 cents. Telegraph dispatches, 5 per cent. Cable and radio messages, 10 cents. House rates changed in these items, but House exemption for press dispatches and facilities restored. Leased wires, 5 per cent instead of the House rate of 10 per cent of the amount paid, except for broadcasting non-commercial programs.

Admission tax, House rate of 10 per cent accepted, but exemption reduced to 40 cents from the House figure of 45 cents.

The bill as it affects refrigerators, taxes the manufacturers' wholesale price on "Household type refrigerators (for single or multiple cabinet installations) operated with electricity, gas, kerosene, or other means (including parts therefore sold on or in connection with or with the sale thereof)." The same tax is provided on "component parts" of mechanical refrigerators.

It does not tax parts sold by manufacturers to another manufacturer, but it does tax parts sold by the second manufacturer or producer, provided they are not sold as part of a completed refrigerator.

Refrigeration Tax

Section A of the refrigerator item is quoted two paragraphs back in this story. Section B, making up the entire portion of the bill as it relates to mechanical refrigerators, reads:

"(B). Cabinets, compressors, condensers, expansion units, absorbers, and controls (hereinafter referred to as refrigerator components) for, or suitable for use as part of or with, any of the articles enumerated in subsection (A) including in each case parts or accessories for such refrigerator components sold on or in connection therewith or with the sale thereof, except when sold as component parts of completed refrigerators or refrigeration or cooling apparatus. Under regulations prescribed by the commissioner, with the approval of the secretary, the tax under this subsection shall not apply in the case of sales of any such refrigerator components by the manufacturer, producer or importer to a manufacturer or producer of refrigerators or refrigerating or cooling apparatus.

"If any such refrigerator components are resold by such vendee otherwise than or in connection with, or with the sale of, refrigerators or refrigerating or cooling apparatus, manufactured or produced by such vendee, then for the purposes of the section the vendee shall be considered the manufacturer or producer of the refrigerator components so resold."

Tells *the* Temperature also how long the motor runs

IF the housewife complains about the electric refrigerator you sold her,—if she says the motor runs too long and too often, or the temperature isn't cold enough, don't argue. Just install BRISTOL'S Model 144T Time and Temperature Recorder and see what the facts really are.

This handy little instrument is mighty helpful in adjusting complaints amicably and satisfactorily. It gives a continuous 72 hour record of temperature and motor performance that cannot be disputed or denied.

Handy, compact, no fuss or bother

THE BRISTOL COMPANY • WATERBURY • CONNECTICUT
Branch Offices: Akron, Birmingham, Boston, Chicago, Denver, Detroit, Los Angeles, New York, Philadelphia, Pittsburgh, St. Louis, San Francisco

BRISTOL'S
TIME AND TEMPERATURE RECORDERS *for Refrigerators*

NELA CONVENTION TO BE HELD NEXT WEEK

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bama Power Co.; report of engineering national section, A. H. Kehoe.

At the public policy session Thursday evening, Floyd L. Carlisle will speak, and P. S. Arkwright will make the report of the public policy committee.

The following program will take place Friday morning: report of the memorial committee, W. H. Onken, Jr.; report of prize awards committee and presentation of awards, Frank W. Smith; report of accounting national section, J. H. Lobban.

Address, "Public Interest in Electrical Merchandising," Kenneth Dameron, secretary, joint merchandising committee; address, "New Tools for the New Age," C. M. Ripley, General Electric Co.

Accounting Session

At an accounting session Tuesday afternoon, J. H. Lobban, chairman, will give an address, followed by W. Paxton Little, chairman of the advisory council.

Discussions will also take place on appliance sales accounting, credits and collections, standardization of financial reports, retirement accounting theory, advantages of property records, budgets, and geographic division cooperation and coordination.

A. H. Kehoe will be chairman of the engineering session Tuesday afternoon. Samuel M. Kintner, vice president of Westinghouse Co., will speak on and demonstrate new technical developments; J. C. Parker, president of Brooklyn Edison Co., will talk on "Engineering as a Process of Business." An address will also be given on operating engineer problems.

Commercial Session

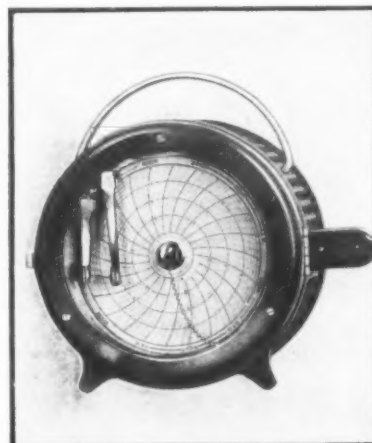
The commercial session, to be held Wednesday afternoon, will have the following features: chairman's address, T. O. Kennedy; address, President J. F. Owens of N.E.L.A.; report of Electric Refrigeration Bureau, J. E. Davidson; report of home-lighting committee, W. A. Jones; report of National Electric Cookery Council, P. S. Arkwright.

A public relations session Thursday afternoon will include: chairman's address, D. C. Green; address, "Taxation," George T. Buckingham, vice president Illinois Power & Light Corp.; addresses by prize-winning speakers in national employees' speaking contest and presentation of awards by President Owens.

G. E. SALESMAN GETS 6 ORDERS IN 10 DAYS

VICKSBURG, Mich.—Miss Mamie Frakes of the Michigan Gas and Electric Co. in this city, utility outlet for Caswell, Inc., distributor for General Electric refrigerators in Detroit, sold six General Electric refrigerators during a 10-day period in the middle of May.

According to S. C. Caswell, president of Caswell, Inc., this is the most outstanding selling job ever done by a woman in this distributor's territory which includes the entire state of Michigan.



BRISTOL'S Model 144T Time and Temperature Recorder, for recording both refrigerator temperature and "on" and "off" motor periods.

to install, it will soon prove an indispensable aid in your servicing work. Write for Leaflet No. 381

ART. B. RISCH
GENERAL MERCHANDISE
BICKWOOD
R.T.B.I. MANTONCO, WIS.

Mrs.
J.M.D.
1908

E.H. Schaefer Corp.,
601 North Second St.,
Milwaukee, Wisconsin.

Gentlemen:

To some dealers a ton of 150 people would not agree to offer me great opportunities for the sale of electric refrigerators. I tell differently for I realized that in new years we had the chance even more than last year to sell our General Electric refrigerators. Furthermore, I advised the dealer for a general store such as mine to carry one or two General Electric refrigerators. It required no further service by me because it was so simple to operate and so profitable a proposition which he recognized.

I always carry no less than three refrigerators on display, none of which are less than six cubic feet capacity and no further service is sold up equipment. The right merchandise and a rule nothing less than a six cubic foot refrigerator would be too small for their requirements.

I feel that it is my responsibility to sell up equipment the right merchandise and a rule nothing less than a six cubic foot refrigerator would be too small for their requirements.

Very truly yours,
Art. B. Risch

SMITH
FURNITURE EXCHANGE
SERVING ORLANDO
(11,000 Population)

Bur. Edn:
1908.

Above Refrigerator Company,
Columbus Ohio, Ohio.

Gentlemen:

You recall the first talk we had with your Mr. Theodor about a General Electric Refrigerator being sent down here were our mistake in doing so. A furniture dealer it was hard to attempt to sell something that did not carry an "American-made" label.

Last year we sold about 75 refrigerators. This year, in face of the depression, we will have a hundred units. In fact, the "good old U.S.A." has been a very successful thing for us.

We have now learned that aluminum is only one of the factors that enter into the process of making profit. Small quantities, like glass, wood, and the sale of certain steel free from chrome are sometimes prime factors in profitable selling.

Therefore, gentlemen, it is indeed a pleasure to conclude to you that you may correct in our original letter and that G.E. Refrigerators are a very profitable item.

Very truly yours,
Smith Furniture Co.
By: [Signature]

WELCH HARDWARE AND UNDERTAKING CO.
HARDWARE AND GAS RANGES
MAKERS AND IMPORTERS
LONGVIEW TEXAS
October 17th, 1911

To Whom It May Concern:-

This is to certify that we have been selling General Electric Refrigerators for a period of about thirty months and find that it has increased our sales twenty five percent. We find that it brings customers to our store that we could not get if we did not have the machine in our house.

We also find that it holds our volume of sales up during the quiet summer months. When our general hardware sales are low, our refrigerator sales are the highest.

Further we will say that General Electric Company has never failed to stand behind their guarantee in any of their products. Further we find that the handling of General Electric Refrigerators has given us the distinction in the town as the General Electric Store, which is in itself an asset, in obtaining new business.

Further we have sold 75 machines to date of this year and find that it has increased our profits no little amount.

Our experience in handling General Electric Refrigerators leads us to believe that any business engaged in distributing handling a line of electric refrigerators, will do well to choose General Electric.

Signed Welch Stone & Wood Co.
For [Signature]
W. E. Streetor

Plumbing C.A. CLENNENNING Heating
General Electric Refrigerators
New Orleans, La.
RENTAL HOUSE - P.O. Box 953
11/3/11

Myrtle B. Stringham Co.,
Singer and Conant Sts.,
New Orleans, La.
(Small notes)

We have just been checking over my sales of General Electric Refrigerators for 1911 and it occurred to me that I would like you of my representation and wish of having a distribution.

Our association has been a pleasant and profitable one for me and I hope for you. As you no doubt know, I have over sold the goods set upon me for them twice and again during 1911 to date, have sold slow times nearly twice space to make 20%.

While on the surface the contract may look as doubtful as snow. Yet, after almost five years of experience, I know it is. The prestige of the company back of its product makes sales easier; each sells another and they all stay sold with no service, up in the end the net returns are quite satisfactory. O.K. for me.

Very truly yours,
Arthur J. Cunningham

[Illustration of a General Electric refrigerator filled with food and vegetables]

[Large GE logo]

DOMESTIC, APARTMENT HOUSE AND COMMERCIAL REFRIGERATORS — ELECTRIC WATER COOLERS

LITTLE STORIES OF INTERESTING
PEOPLE
IN THE REFRIGERATION INDUSTRY**Merle Thorpe**

The week-long Radio Manufacturers Association convention at Chicago, May 23-27, had only one session of general interest, the Tuesday morning gathering.

The rest of the time was largely occupied by meetings of committees such as show, vacuum tube, traffic, membership, service, credit, advertising, foreign trade, and legislative.

Headliner of the Tuesday morning session was Merle Thorpe, of Washington, D. C., much publicized editor of *Nation's Business*.

Mr. Thorpe, a man of commonplace appearance unenhanced by the unconscious adoption of demagogic mannerisms affected by his froth-blowing Washington contemporaries, had the following things to say about the sitchey-shun in general:

"Business men know that in times of stress overhead must be cut. Governmental overhead is the greatest bar to economic recovery. For each minute of the 24 hours the productive forces of the United States pay \$35,000 a minute. Some 250,000 independent tax-gathering and tax-spending units will collect this year 15 billion dollars from all of us who will earn between 52 and 55 million."

"No business could survive with a 30 per cent overhead. At the same time during each minute of the 24 hours the Federal government spends \$5,000 more than it takes in, or a daily deficit of \$7,200,000. There are two ways to balance a budget. One is to get more income through sales and the other is to cut expenses."

"Those who represent us in our business of government seem to think there is only one way to balance a budget, and that is to get more income through taxation. They overlook, because of political expediency, the other method."

"Business has a bleak future unless it realizes that 15 billion dollars must be collected from the people before there is a nickel left for a loaf of bread or \$50 for a radio. When business realizes this it will relieve Congress, and the state, and the local governments of the pressure of demands for their particular interests, and demand as a national policy that this tremendous overhead be cut without fear or favor."

"There are two hopeful signs on the horizon. One is that in 2,500,000 small businesses we find readjustment, elimination of waste, new methods, new selling plans, and from these businesses at the crossroads will come recovery as has been the case in the past."

"In the second place, those pessimists and cynics who profess to believe that we shall never return to prosperous times are not taking into account the American urge for better things. The urge for a higher standard will result sooner or later in a return to normal."

Other speakers were Chicago's Mayor Anton Cermak (pronounced "Chitter-mack"), R.M.A. President J. Clarke Coit, Paul W. Morency of Hartford, Conn., Harold M. La Fount, member of the Federal Radio Commission, and George Graham, vice president of the Rockne Motor Corp. and the man who represented the automobile industry in the sales tax hearings held by the Senate Finance Committee a few weeks ago in Washington.

Mr. Coit's remarks are reported on page 8 of this issue, and Mr. La Fount's speech appears on page 6.

The Old Guard

Definite traces of a species of class consciousness were evident at the R.M.A. show.

General Electric, Frigidaire, Kelvinator, Copeland, and Westinghouse, took no part in the show, had no representatives there. And the refrigeration manufacturers and distributors who did have displays and make contacts there seemed to consider themselves as belonging to a new hierarchy, where as the above-mentioned quintet was designated as "the Old Guard."

"The new hierarchy" is composed largely of distributors who have been—or are yet—radio distributors, or who are long-established jobbers with bulky catalogs; and of manufacturers who also make radios; or who are comparatively recent additions to the industry. As a rule they do no retail business.

"The old guard" gets its distribution chiefly through independent distributors, factory branches, and public utilities; and stresses the "master retail system" (branch or distributor-operated retail stores).

It should be noted in this connection that Leonard refrigerators are manufactured and sold by the Kelvinator Corp. (member of the so-called "old guard"), but are distributed by the radio-jobber type of wholesalers.

Also it might be observed that Servel, one of the pioneers of the industry and long associated with the "old guard" (it was the first electric refrigerator to be merchandised extensively through

public utilities) now belongs logically to the newer distributing category.

Just what this hypothetical division of the industry augurs would be difficult to determine.

One can't help but noting, however, that "the hierarchy" is feeling its oats.

Several manufacturers who might be listed in this group are registering sizeable gains in volume this year. It is also this group which is sponsoring \$99.50 units.

One such distributor (from the Southwest) even spent several minutes trying vehemently to convince the Valve that "in another year 'the Big Four' (whoever that may be), will be completely out of the picture." Believe it or not, he was sober.

THE EXPANSION VALVE

By George F. Taubeneck

son, energetic and indefatigable assistant advertising manager; the One and Only Salesman Sam Vining, assistant sales manager; and others equally good-humored, were on deck to greet all and sundry.

Hail, Hail, etc.

After several days of traipsing around the various (and when we say various, we mean *multitudinous*—voice off-stage: "All right, why not say *multitudinous*?") floors of the Congress and Stevens (world's largest hotel) hostilities in Chicago last week, we believe we could draw accurate floor plans of the catacombinous innards of both establishments.

Inasmuch as only radio manufacturers could hire suites at the Stevens, most of the refrigeration exhibits were set up in suites at the Congress. In the suites were to be found major executives of the manufacturers represented.

Distributors and prospective distribu-

"Why did you discriminate against Servel," these men wanted to know, "by leaving its specifications out of the May 18 issue?"

We attempted patiently to explain that we would have been overjoyed if Servel specifications had arrived, and that we had tried almost frantically by wire and phone to bag them.

It so happened, however, that F. E. Sellman, vice president in charge of sales, said: "NO!"

And in our 11-odd years of reporting, interviewing noted people, and endeavoring to obtain facts from those who weren't anxious to give out the facts, we have never yet bumped into a "No" so emphatic, so unequivocal, and so impregnable as Mr. Sellman's.

Explanations were of no avail, however, for these young men were out for blood. We were really "in between" the management, which didn't want the specifications printed, and the field men, who did.

Not until two days later, when our good friends, Advertising Manager W. Paul Jones and Sales Manager C. A. Miller, arrived, did we screw up enough courage to poke a timid nose into the Servel suite again.

Mr. Miller, incidentally, gave us a new categorical word which we like.

He calls all the "super" adjectives (superior, outstanding, quality-plus, paramount, unparalleled, spectacular, unquestionably, tremendous, sensational, preeminent, etc.) which advertising copy-writers and publicity blurbers so overwork, "superfluous" words. That's our notion exactly.

Crosley—300 a Day

Another pleasant moment was one occupied by a short get-together with Neil Bauer, likeable and personable sales manager for the Crosley Radio Corp.

According to Mr. Bauer, Crosley is now turning out about 300 refrigerators a day.

For some time the production line will be kept running at capacity just to supply distributors and dealers with floor models.

The plant is well behind in its attempts to fill orders from the 100 and more distributors who have taken on the Crosley refrigeration line, Mr. Bauer declared.

Among the other Crosley executives there were President Powel Crosley, Jr.; G. H. Corbett, advertising manager; and Fred Johnson, chief refrigeration engineer.

Crosley salesmen and field representatives were interested in the new line of refrigerators brought out by the U. S. Radio and Television Corp.

Crosley, according to the tales, had things pretty much its own way in the low-priced radio field until the U. S. concern came along with much lower prices, after which the battle became royal and the participants many.

For similar reasons other radio men are keeping their eyes on this new U. S. move.

T. C. Whitehead and H. Greenwald, who developed a refrigerating unit for Whitehead and Kales some time ago, head up the new U. S. refrigeration department.

Modest Blush Dept.

Perhaps one of the most amusing things we heard at the show was uttered by a booth attendant for a manufacturer of refrigerators, and many other products, which has recently brought out a new low-priced line of electric refrigerators.

We asked the attendant what the difference between the new low-priced line and the older higher-priced models was.

"Oh," he said, "these new models are cheaper and made of poorer materials."

And one of the statements that pleased us most was made by a publisher of a radio magazine, who didn't know us from Eve's husband.

We were passing down an aisle between exhibits, carrying a big stack of May 18 issues (containing the specifications) of *ELECTRIC REFRIGERATION NEWS*, when we heard a man ask this publisher if he knew what kind of compressor a Kelvinator had.

The publisher spied us there with

LITTLE STORIES OF INTERESTING
IDEAS
IN THE REFRIGERATION INDUSTRY

this pile of papers, grabbed one off the top, and said:

"Here! If you can't find it in this paper, it can't be found!"

Gibson All Present

A few doors from the Stevens was the elaborate Gibson showroom, equipped and decorated especially for the R.M.A. show.

Monday morning passersby could not enter, could not see inside because the show-windows were plastered with big paper sheets asking the question:

"Cold Beauty—What Is It?"

Late that afternoon the showroom opened for business, and the interrogative paper was hauled away to reveal Gibson refrigerators in white, black, and stainless steel.

Inside you could find the entire Gibson executive staff: President Charles J. Gibson, Vice President Frank Gibson, Jr., Sales Manager Frank Delano, Sales Promotion Manager W. R. Marshall, Service Manager Elmer Born, Home Economist Jacqueline Frost, and other field and factory officials (among whom was Herb Young, former Majestic sales manager, and now Gibson eastern representative—and quite happy in his new job).

The blonde Miss Frost conducted cold cookery demonstrations—centering about the preparation of frozen foods with an electric refrigerator—every afternoon during the show.

Pep and Mr. Wiswell

Leonard refrigerators were examined by delegates to the R.M.A. show at the showroom of L. C. Wiswell, Leonard, Kelvinator, and Electrochef distributor in the Chicago area, a few hundred feet south on Michigan Blvd.

Mr. Wiswell has one of the most attractive and most impelling "come hither" showrooms your humble correspondent has ever seen. It is long and narrow, with a high ceiling and a stairway in the center of the room.

The stairway—the type on which you expect any minute to see a queenly person in an evening gown descending—acts as a virtual magnet to draw visitors further into the store.

Salesmen are almost invisible behind large Kelvinator and Leonard models as one enters the store. But as soon as you are safely in you are approached.

Although the color of his hair would indicate that he is not exactly a young buck, Mr. Wiswell gives one the impression of being quite youthful and charged with pep.

One afternoon we caught him in his office talking with A. M. Taylor, director of advertising for Leonard and Kelvinator.

Here were two lively, idea-sprouting men to cope with; whereas one would be more than enough to cope with in the little game of matching wits and wisecracks.

By the time we got out, we were weak.

Norge Has a Party

More than a fortnight ago dashing John Knapp, Norge vice president in charge of sales, invited the Valve to go on a mystery trip with Norge officials and distributors who would attend the R.M.A. show in Chicago.

One was to report at the Congress hotel Tuesday night, ready for anything, Thursday morning, Mr. Knapp promised, one would be returned safe of limb and sound of wind.

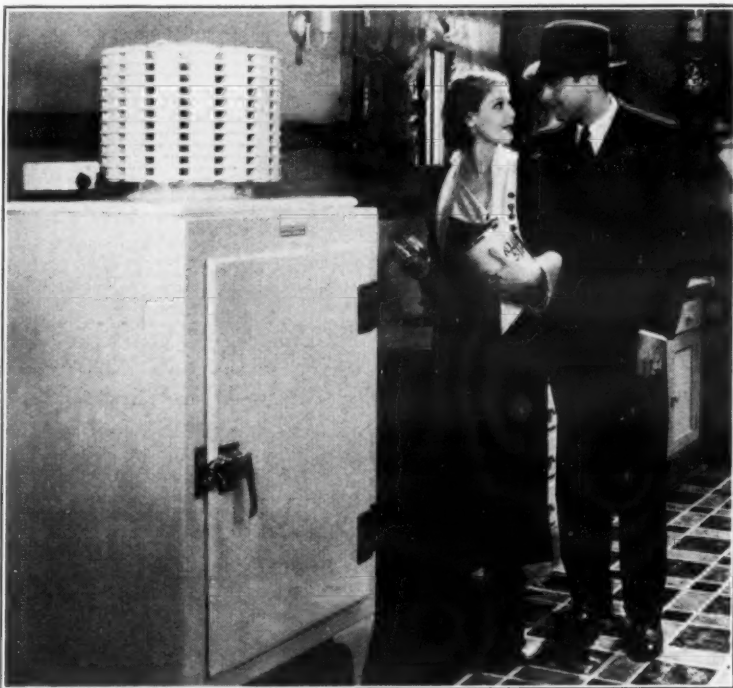
Within a week after Mr. Knapp's invitation, one railroad operating out of Chicago, and one steamship line ditto, announced "mystery trips" for following week-ends. You bought your ticket, got on your boat or train, and then awaited results.

In other words, Mr. Knapp's little idea evidently was a big one.

The Norge mystery trip was to Muskegon Heights, Mich., where a good many Norge refrigerators are rolling off the assembly line almost any time of day you choose to look at it.

Preceding the trip was a rousing banquet Tuesday night in Chicago. Wednesday morning the party toured the Norge plant. Following a country club luncheon came an afternoon of golf—both Scotch and African variations of this ancient pastime.

At night another banquet, then a sleepless train ride back to Chicago.

Loretta Young and Norman Foster

Here is another preview of a soon-to-be released talking picture, in which appears an unmistakable make of electric refrigerator.

\$2,000 Incomes

Most of the distributors of electric refrigerators at the R.M.A. show were talking about the technique of selling to families of small means.

They all seemed to agree that families which have incomes around the \$2,000 level comprise the market for electric refrigerators today.

A short time ago in New York City we talked at length with Sales Manager O'Brien and Advertising Manager Metz of the Graybar Electric Co.

These men, who have had experience over a long period of years in the national distribution of electrical appliances of every description, have an entirely different slant on the subject.

Manufacturers and distributors almost invariably lose money when they try to sell cut-price electrical merchandise to low-income groups, according to these marketing authorities.

There is still an extensive and profitable market for quality electric refrigeration at reasonable prices, they believe. The \$2,000 income families, they say, to a large extent do not even use ice.

Some Graybar branches distribute Kelvinators. Graybar branches in Chicago and Pittsburgh will sell the new Graybar-Ilg Kold refrigerator at substantial prices.

Lone Star Majestic

Not being a member of the Radio Manufacturers Association, the Grigsby-Grunow Co. had to display its Majestic refrigerators and radios in the Congress hotel, along with the refrigerator concerns which do not market radios.

Majestic withdrew from the R.M.A. a couple of years ago. (There is a nonpareil—and totally unprintable—story about the unique manner in which Bill Grunow pulled Majestic out of the R.M.A.).

The Majestic suites were popular and crowded at all times, however; and largely, we think, because the Majestic men who were there were such good hosts.

John Ditzell, genial and fast-thinking sales manager; Bill Peirce, youngish and diplomatic assistant to Don Compton; Earl Hadley, sincere and hard-working advertising manager; Tommy Thomp-

tors found their way—or were conducted there—to these suites, where they were entertained and treated jovially. Occasionally a visitor and an executive went into a huddle.

Suites on one side of the Congress hotel are designated by numbers (example: the Norge suite was composed of rooms 1313, 1314, and 1315), whereas suites on the other side are designated both by numbers and letters (example: the Grigsby-Grunow suite was composed of rooms H-1-2-3-4).

The Valve was disappointed to find that room F-12 in the Congress was not occupied by the Frigidaire Corp.

In the story on the R.M.A. show and exhibits which was published in the May 25 issue of *ELECTRIC REFRIGERATION NEWS*, attention was paid to each of these refrigeration manufacturers' suites, what they were featuring, and names of the men present.

We hope that we will be pardoned, then, if in a retrospective resume such as this we mention but a few companies, names, and incidents which we remember best in connection with the show.

Between the Devil and the Deep Blue Sea

Ever play Hi-Lo? It's a variation of stud poker, in which the high and low hands split the pot. Players rarely drop out until the final reckoning, because the apparently certain low hand may be paired by the arrival of a second deuce on the last card (the world at its worst).

The sad player is the one who is caught "in between" the high and low hands. Having been in that position not infrequently, we can appreciate fully that popular song, "You've Got Me in Between the Devil and the Deep Blue Sea."

When we dropped into the Servel suite on the opening day of the R.M.A. show, we found ourselves again in that position. Our arrival was the signal for a frontal attack which eventually forced us to retreat in utter disorder.



★ In the same boat! ★

THE consumer and prospective electric refrigeration dealer are in the same boat. To both, experience says—"judge carefully and pick wisely" because the engineering, manufacturing and merchandising of an electric refrigerator cannot be learned over-night.

Kelvinator has done nothing else for 18 years—almost two decades devoted entirely to building and selling electric refrigeration, in all its different phases. This is the *longest* experience of any manufacturer in the industry. And experience *does count*.

To-day, Kelvinator is the largest exclusive manufacturer of electric refrigeration equipment in the world. And the Kelvinator Line of Domestic and Commercial equipment is not only the finest, but also the most complete in the industry.

It naturally follows that the Kelvinator Franchise is one upon which a *profitable* and *permanent* electric refrigeration business can be built by any aggressive distributor or dealer.

We shall be glad to discuss this with merchants who are far-sighted in their thinking about the electric refrigeration business. Send the coupon below and we shall come to your office with complete facts and figures which will enable you to judge wisely in your selection of the *right franchise* . . . KELVINATOR CORPORATION, 14245 Plymouth Road, Detroit, Michigan. Kelvinator of Canada, Ltd., London, Ontario. Kelvinator Limited, London, England.

Kelvinator⁽⁵⁶¹⁾

C O U P O N

KELVINATOR CORPORATION, 14245 Plymouth Road, Detroit, Michigan

Gentlemen: Please send a representative to discuss the Kelvinator Sales Agreement.

Name _____ Street Address _____

City _____ State _____

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The Business Newspaper of the Refrigeration Industry

Published Every Week by

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What's On Their Minds?

HUNDREDS of substantial distributors and dealers who sell electric refrigerators gathered in Chicago last week to attend the eighth annual Radio Manufacturers Association convention and sixth annual Radio Trade Show. At this show, and in nearby hotel suites, many lines of electric refrigerators were displayed. Manning these displays were so many high refrigeration executives that a selected list of the week's registrants at the Congress hotel would read like a Who's Who in the Electric Refrigeration Industry.

The distributors and dealers were entertained royally. And while they were consuming banquets, sitting in deep chairs smoking hand-out cigars, and examining the products on display, they talked. What they talked about might be taken as a partial cross-section of what's on the minds of the industry's field organizations today.

Most prominent among the subjects discussed in these informal gab-fests were the \$99.50 refrigerators. Every distributor and dealer there was either selling a model at that price, competing against \$99.50 jobs, or planning to stock them.

Low Prices Bring Prospects

Those who had them for sale admitted that they weren't selling many, and that the margin of profit on those they did sell was slim indeed. But they liked the idea, and are in favor of keeping low-list models in stock, because such attractive prices bring in prospects, they believe.

"A big percentage of the prospects who walk into my store to look at a \$99.50 refrigerator walk out the possessors of a larger model," declared an aggressive metropolitan area dealer, whose statements were reiterated by many others at the show. "When they find out what the freight and installation charges on a \$99.50 machine are, they begin to think they might as well get a refrigerator big enough to serve their needs," he smiled.

"Sometimes—when I think I know my prospects pretty well—I even discourage them from buying an electric refrigerator at all, if they are insistent on the \$99.50 price. I tell them they might as well use an icebox as try to use a midget electric refrigerator.

"Why, for an expenditure of \$50.00 more they can get a box large enough for them to effect economies through quantity buying and Saturday bargain sales. And in a short time that additional difference can be paid for out of savings in food costs. They usually see the point."

Accepted Sales Formula

Most of the dealers and distributors present stated that it had been their experience that 3 and 4-cu. ft. boxes were too small even for a bachelor, and that a 5-cu. ft. model is the smallest size refrigerator a small family can buy economically.

Advertise widely a low f.o.b. price, pull prospects into the store, and then sell them a model large enough for their needs—that seems to be the accepted formula.

Perhaps the most pressing problem on the minds of these distributors and dealers was that of credit.

Finance companies, it would seem, are becoming quite "choosy" in their acceptance of dealer paper. And they are refusing—on the ground that their overhead on such small accounts is too large to make them profitable—to do business with a

dealer whose time payment paper does not exceed \$5,000 in one year. In many cases the ante is even higher. Moreover, dealers are apparently unable to get much help from local banks.

This situation, of course, is tough on many of the organizations which have extensive distribution set-ups, and which allow a dealer to retain his franchise if he sells one or two machines a year. Multitudes of these small dealers are becoming discouraged at the difficulty of financing their sales, and hence aren't putting their hearts into the business.

This is apparently resulting in a contraction of field organizations all down the line. Distributors are confining their efforts more and more to substantial dealers who can do a good volume of business, and whose financing problems are not so pressing. They are making a bigger play for department store outlets, which can do their own financing. And many of them are themselves financing dealers who have proved their ability to go out and sell.

Much discussed in this connection was the Commonwealth Edison Co. of Chicago, a public utility, which—subject to certain restrictions—is financing instalment sales of electrical appliances sold by dealers in its territory. Because this plan does not include appliances which retail for more than \$50.00, electric refrigerator dealers are not helped. It seemed to be generally agreed, however, that the idea was a step in the right direction.

What They Didn't Talk About

It was also highly revealing to note what the distributors and dealers who attended the R.M.A. show didn't talk about.

Public utility merchandising, service, and salesman turnover—three bugaboos of former years, always sure-fire subjects for heated and explosive discussions in such gatherings heretofore—were barely mentioned. The epithets seem to have turned into epitaphs.

Present conditions of unemployment have apparently made the once elusive and unpredictable salesman docile and dependable. He calls on dozens of homes at which unemployed husbands meet him at the door; and when he gets back to headquarters he is ready to listen to anything his managers tell him, and to follow instructions implicitly. It's a bad year for temperament.

As for service, that bogey seems to have lost some of its terrors. Apparently refrigerating machines are being improved. It still is a problem; but according to the reports of distributors at the R.M.A. show, it is not nearly so big a problem as it has been in the not-too-distant past.

Public utilities? Well, what about 'em? Scarcely any dealers or distributors to whom we talked in Chicago seemed to be worried much about competition from this source. From their stories it would seem that central station merchandising departments have pulled in their horns. There were also some glowing reports of helpful cooperation extended to dealers by public utilities in some sections of the land.

Above all, these dealers and distributors seemed to think that electric refrigeration is a good business. They are making money in it, and expect to make more. And they do not seem to be concerned greatly over the possibility that low prices may ruin the industry.

GLEANINGS

FROM RECENT PERIODICALS

ONE WAY TRADE PICKS UP

WE NOTE that the specialized business and advertising magazines are publishing expressions of the same ideas. When the pinch of bad times first was broadly felt, manufacturers rushed to make and merchants to offer cheaper and yet cheaper varieties of the articles in general use, from furniture to handkerchiefs. The new note is that, while at first the cheapest things scored most sales, a change has occurred. Although stiff competition and lower prices all along the line continue, "quality," as of old, wins over "price." The lowest priced articles do not always retain their earlier volume of patronage.

Our inference is that these specialized magazines, too, are served by reporters who are trained fact-finders. It is logical and, by our information, true. As dollars in average purses became fewer and harder to get, tests of the dollar's worth became more exacting. When the thing bought once, however cheaply, gave little or no satisfaction, it became good economy to pay a little more next time, even from scant means, for better quality. Assuming many thousands of such experiences is not a rash assumption. It follows that the "market" would change, and for the better. The higher price level to an extent becomes a fact under conditions in which trade, taught by experience, caters to a more intelligent and exacting public, also taught by experience. There are the good sides of the depression. Use of money wisely by more people would be one of them.—*Detroit News.*

'Television Has Not Yet Emerged from Laboratory' LaFount Tells R. M. A.

CHICAGO—Characterizing television as "not yet emerged from the laboratory," in his speech before the Radio Manufacturers Association convention here last week, the Hon. Harold A. LaFount, Federal Radio Commissioner, nevertheless declared "As soon as the television art is perfected to the point where the average layman can expect a comparatively fair amount of entertainment from his television receiver, it seems reasonable to suppose that the commission will not arbitrarily bar the way to economic progress in this field."

A real weakness in the policy of radio manufacturers, distributors, and retailers was pointed out by Mr. LaFount in the lack of service given to the receiving set owner.

Service of Sets Necessary

"Your responsibility must not cease when the receiving set is paid for," he said. "If full tone value is to be maintained, and if the receiver is to accurately reproduce that which is broadcast, then sets must be serviced at least twice a year. A small service charge could be made which the average listener would welcome."

"Then too, frequently receiving sets are improperly installed with poor antennae systems and connections. Personally, I believe that more than one half of the 17,000,000 radio receiving sets now in use in this country are improperly installed, and this I say is partly due to the fact that manufacturers and distributors have failed to explain to the public that their receiving set is a highly technical device, which must be frequently checked by a capable expert."

2,000 Kilocycle Channels

The fact that broadcasts of television will require channels of approximately 2,000 kilocycles in width, making only 10 such channels possible over the air, was designated by Mr. LaFount as the chief reason for the Commission's extreme caution in the approval of new television stations.

"If what has the essentials of a huge industry in the making must grow, live, and prosper within perhaps only 10 channels, only the extreme caution in the original granting of television applications can prevent chaos," he said.

"The Federal Radio Commission in its determination of public interest, convenience and necessity, must consider the use by any of its licensees of radio frequencies for purposes other than those intended in the license, such things as stock manipulations are not passed unnoticed," he continued.

Protection to Industry

"Our justification, however, for what appears to many to have been an unnecessarily severe control over television stations, is not based upon the question of stock promotion at all, but on a protection of the industry itself."

"We wish to avoid the degeneration which occurred in broadcasting due to the breakdown of control, and to prevent such possibilities in television by subjecting all television applicants to the most rigid scrutiny before, rather than after, the damage is done."

Mr. LaFount congratulated the manufacturers of radio equipment on their optimism, saying: "The fact that you have on display here more new products than at any period during the last five years speaks volumes for your vision

and confidence in the future. It is just such courage and foresight, as you are manifesting, that will win this war against depression and unemployment."

He cited radio broadcasting as one of the greatest contributions ever made to the American people. With 17,000,000 homes equipped with receiving sets, he said, the broadcast of vital news concerning public welfare, stimulation of music appreciation, the provision of the finest in entertainment, education and diversion are only a few of the results.

Mr. LaFount outlined the activities of the Federal Radio Commission in allocating wave lengths and in enforcing the use of the most efficient transmitting equipment. A majority of stations have installed equipment to keep within 50 cycles of their assigned frequency consistent with a commission order which goes into effect June 22, he stated.

This will eliminate whistles, etc., now prevalent on many regional channels.

'Just Around the Corner'

Mr. LaFount's assigned topic was "Television in its Present Development," and in starting his discussion he said that television, like prosperity, was "just around the corner," but the only difficulty was, which corner.

Ever since 1925, when C. Francis Jenkins gave his first public television demonstration, the commissioner said, interest in television has exaggerated its state of development.

"Most of us have seen remarkable pictures in the laboratory," he stated, "pictures whose depth and detail compare not unfavorably with the amateur motion picture projection. But while we may gaze in fascination for 10 or 15 minutes at a picture that has penetrated the mysterious ether through steel buildings and brick walls, yet after a quarter of an hour of such pleasing surprise, the mind becomes impatient and critical."

Number of People Limited

The number of people who can be seen with any clarity in a present television broadcast is limited to two or three, he said.

"These imperfections and limitations of present-day television result from the comparatively small number of what are known as television scanning lines. A number of years ago television was being developed on the basis of 48 scanning lines per picture, which means that whether the picture was an inch high or was projected to a large screen, the number of lines still remained at only 48.

"From a projection standpoint it can be readily seen that if the ordinary motion picture screen is divided into 48 horizontal strips, the amount of resulting detail must necessarily be meager. The number of lines has been gradually increased from 48 to 60, and we are now told that 120 lines are being used with the possibility of doubling this to 240 lines. Such an increase in line scanning will of course give a considerable increase in the detail of the picture transmitted, but the picture will still be far from approaching the quality of present-day motion pictures."

"Rather complex engineering problems are involved in the development of the associated apparatus for both low and high frequency amplification which will permit full advantage to be taken of the increased detail accompanying the increase of the number of scanning lines."

WESTINGHOUSE CREATES BROADCAST DEPARTMENT

EAST PITTSBURGH, Pa.—The creation of a radio broadcasting department, to be headed by Walter Evans, is announced by J. S. Tittle, vice president and general manager of the Westinghouse Electric & Mfg. Co.

The new department will consolidate all radio broadcasting and associated activities of the Westinghouse Co. Before the grouping of the various radio functions into the new department, such activities were split among several other departments and bureaus of the Westinghouse company.

Mr. Evans, head of the new department, joined the Westinghouse company in 1921 as an operator of Station KYW. Before leaving the station in 1928 he had become its manager.

Chief among the radio stations operated by Westinghouse is KDKA of Pittsburgh. Other Westinghouse stations are: WEZ, Boston; WEZA, Springfield, Mass.; KYW and KFKX, of Chicago.

KELVINATOR SALESMAN GETS 17 ORDERS IN DAY

POUGHKEEPSIE, N. Y.—Seventeen Kelvinators sold in one day is the record reported by Harry Wood, sales manager for John Van Benschoten Co., distributor here.

The day on which he made the record happened to be the anniversary of his ninth year as a salesman for Kelvinator.

Refrigeration Sales Manual Issued

CHICAGO—A new manual called "Merchandising Electric Refrigerators" has been released by the National Association of Radio, Refrigeration and Electrical Distributors.

The manual was written as a sales help for dealers now handling refrigerators, new-comers to the field, and distributors, it was stated.

Some of the subjects treated are: Opportunities for Sales and Profits; Refrigeration; Organizing to Sell; Closing Orders; Handling Satisfied Users and Hints on Service.

Store management, window displays, advertising copy, financing, getting orders, are all subjects for chapters.

H. G. Erstrom, National Association of Radio, Refrigeration and Electrical Distributors, 32 West Randolph St., is in charge of distribution.

GENERAL ELECTRIC DEALER OPENS SHOWROOM

BENNINGTON, Vt.—The H. H. Warren Co., of 532 Main St., formerly a General Electric dealer for Gould-Farmer Co., distributor in Portland, Me., has opened a new showroom as a General Electric authorized dealer handling the entire General Electric line, a short time ago.

Mr. Warren has consistently made his quota of refrigeration sales.

PIONEERS AND PEERS

Creating an Epoch in Ice-Cream Merchandising

Mr. Dealer:-

TAYLOR FREEZER OFFERS . . .

NEW VOLUME . . .

NEW PROFITS!

...

WHY

REFRIGERATION DEALERS AND DISTRIBUTORS ARE
INTERESTED IN TAYLOR FREEZER

1. *SEVEN HUNDRED* satisfied owners! *Seven Hundred* excellent references! This remarkable record far exceeds combined competition!
2. TAYLOR FREEZER—the *Eureka* to 35 years' experience as Ice-Cream Manufacturer and Merchandiser!
3. *Proven* TAYLOR FREEZER field performance guarantees sales thru satisfied customers!
4. *Quality Product, Satisfying Performance, and Low Price* sells TAYLOR FREEZERS!
5. Ice-Machine Distributors selling TAYLOR FREEZERS receive *TWO PROFITS* on *ONE SALE*—one profit on the Freezer and one profit on the Ice-Machine!
6. TAYLOR FREEZER answers your problem of decreased sales costs and Increased Net Profits!

WHY

DRUG STORES, CONFECTIONERS, RESTAURANTS,
HOSPITALS, SCHOOLS, ETC. DEMAND TAYLOR FREEZERS

1. TAYLOR FREEZERS make much better Ice-Cream at much less cost!
2. TAYLOR FREEZERS are designed for *quality* and *quantity* Ice-Cream production—they are *proven Profit-Makers!*
3. TAYLOR FREEZERS pay for themselves!

...

TAYLOR FREEZERS are now available to all distributors of methyl, ammonia, or F12 Ice-Machines. Further information about the TAYLOR FREEZER will be gladly sent to responsible refrigeration distributors and dealers, desiring *decreased sales costs, and increased Net Profits.*

Dealers will be interested to know the Taylor Freezer Corporation is now absolutely independent of both the General Refrigeration Corp., and the General Refrigeration Sales Co., manufacturers and distributors of Lipman Ice-Machines.

**TAYLOR FREEZER
ANSWERS YOUR
PROFIT PROBLEM!**

KINDLY MAIL THE COUPON

Taylor Freezer Corp., Beloit, Wis.

Please send me complete information about the Taylor Freezer Plan for decreasing my sales costs and increasing my Net Profits.

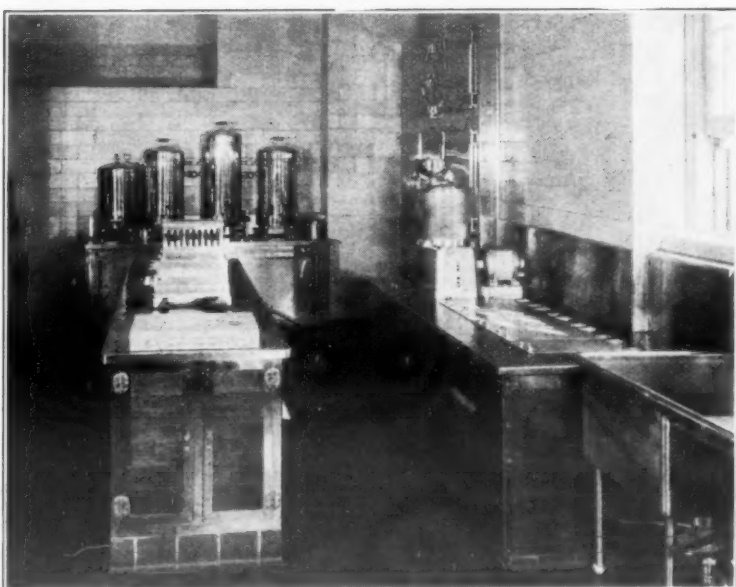
Name.....

Street.....

City.....



A. H. Hart, Rexall Drug Store, Adrian, Michigan



Taylor unit freezer shown at Dearborn Inn, Michigan



Brooks House, Phcy., Brattleboro, Vermont

RADIO MEN BETTING ON RECOVERY--COIT

CHICAGO—The radio industry is betting \$200,000,000 that American business will improve during the next 12 months, J. Clarke Coit, Chicago, president of the Radio Manufacturers' Association, declared at the opening of the Eighth Annual Convention and Trade Show of the association at the Stevens Hotel.

Much of this money has already been wagered by the manufacturers, he pointed out, in expenditures on new machinery, new dies, re-tooling and other items required for changes in product. The balance will be spent during the next few months in purchases of stocks of raw material, labor hire, and advertising, Mr. Coit believes.

Industry Not Disheartened

"The radio industry has suffered during the past three years along with business in general," he asserted. "Radio has taken a lot of punishment, but the industry as a whole has weathered the storm quite well, and has refused to be disheartened."

"We take the attitude that business in general is just three years nearer a return to profitable operation than it was at this date in 1929."

"Just how soon business will start on the upgrade no one can say, but some of us feel that a slow recovery is now under way. In any event, our industry is betting \$200,000,000 that conditions will be much better during the next 12 months."

16 Million Radios in Use

"There are some 16,000,000 radio sets in operation in homes and a great many of them are obsolete. We therefore look forward to a good volume of replacements. Also, we must consider the fact that there are approximately 13,500,000 homes in the United States that are not equipped with radios."

"Approximately 3,500,000 sets and nearly 55,000,000 tubes were sold during the last year. This volume should be materially exceeded this coming year."

The tendency for prices on radio sets to "stiffen" was indicative of the recovery trend, Mr. Coit said.

KELVINATOR DEALERSHIP ORGANIZED IN CHARLESTON

CHARLESTON, W. Va.—Charleston Kelvinator & Appliance Co. has been organized to handle Kelvinators in this territory, according to announcement by Williams Hardware Co., distributor.

Frank M. Sparks, who has been with Kelvinator sales organizations since 1928, is general sales manager of the new organization. Mr. Sparks was first connected with Kelvinator in Buffalo. Last year, he came to Williams Hardware Co. to organize sales among their dealers, and April 1, was made assistant manager and general sales manager of the Charleston Kelvinator & Appliance Co.

W. W. Huffman is general manager of the organization, and M. E. Burnside is service manager. The force includes 13 outside salesmen.

Analysis of Nema Sales and Stocks—April, 1932

Reported by Refrigeration Division of National Electrical Manufacturers Association. Member companies: Copeland, Frigidaire, General Electric, Kelvinator, Majestic, Norge, Servel, Trupar, Universal Cooler and Westinghouse.

Using Factory or Branch Invoice Net Prices to Distributors and Dealers, Including Export

HOUSEHOLD	APRIL, 1932		Stocks at End of April, 1932	
	Quantity	Dollars	Quantity	Dollars
61. Total (cabinets only).....	22,318	749,108.00	28,863	1,205,244.20
62. Total (systems included).....	100,847	10,370,728.08	176,661	22,608,453.59
63. Separate Household Systems.....	22,727	1,424,512.00	14,742	1,134,908.00
64. Separate Household Low Sides.....	3,046	54,803.05	7,377	146,846.00
65. Total Items 62, 63 and 64.....	126,620	12,756,956.50	198,780	25,297,198.24
66. High Sides, 1/4-hp. and Less.....	2,254	121,205.20	3,409	198,048.45
67. Parts and Miscellaneous (household).....	.....	36,600.17	.....	3,700.00
68. Total of 61, 62, 63, 64, 66 and 67.....	.....	12,756,956.50	.....	25,297,198.24
COMMERCIAL				
71. Water Coolers with High Sides.....	1,225	142,941.55	15,561	1,942,106.00
72. Water Coolers with No High Sides.....	81	4,641.00	500	26,717.00
73. Ice Cream Cabinets with High Sides.....	1,955	308,461.00	5,283	782,575.00
74. Ice Cream Cabinets with No High Sides.....	1,857	228,222.00	5,574	655,912.00
75. Milk Coolers with No High Sides.....	10	2,620.00	5	1,277.00
76. Room Coolers with No High Sides.....	114	12,124.00	1,969	209,212.00
77. Counters and Commercial Boxes.....	86	34,265.00	1,367	390,852.00
78. ....	.....	.....	.....	.....
79. Extra Low Sides (commercial).....	8,004	313,631.67	23,737	952,961.42
80. Extra High Sides 1-3 hp. and Up.....	8,911	1,059,271.11	17,734	2,181,154.49
81. Parts and Miscellaneous (commercial).....	.....	32,289.62	.....	154,758.18
82. Total 71 to 76 inclusive and 79.....	13,246	.....	52,629	.....
83. Total Items 65 and 82.....	139,866	.....	251,409	.....
84. Total Commercial (71 to 81 inclusive).....	.....	2,138,466.95	.....	7,297,525.09
85. Total Dollars (68 and 84).....	.....	14,895,423.45	.....	32,813,798.58

Line 85 prorated to correspond with total sales of 10 companies
No. of Mfrs. reporting on Line 85 and their % of total sales. 9 Mfrs.—96.40%. 6 Mfrs.—63.43%.
*Shows number of manufacturers reporting on items above line 85 in these double columns; also the % of total sales for the month made by these companies.

How To Operate a Distributorship

As Told By Les C. Wiswell, Kelvinator Distributor

By Phil B. Redeker

CHICAGO—Les C. Wiswell, distributor for Kelvinator and Leonard in Chicago and the surrounding territory, is the type of distributor who thinks first of his dealers.

He built his organization on a solid foundation by careful selection of dealers, sometimes cancelling former dealer franchises to get better dealers into his distributorship. Twenty-five years experience with music store and radio dealers gave him a wide background of "inside" knowledge on the merchandising set-ups in his territory.

Dealers Signed Up

He put dealers in 86 towns and zones in the Chicago area within the course of a year. Taking a large map of Metropolitan Chicago, he stuck white-headed pins in various trading centers and towns where he thought dealerships would be effective.

Then he went out to get dealers in these communities, and when he signed one up, the white-headed pin was replaced by a red-headed one. There are but a very few white pins left on the map today.

Once having selected his dealers, Wiswell set out to back them up and give them confidence in the product and in the distributing organization by every means possible.

Dealers often find themselves pleasantly surprised when they receive a commission check for a sale to a prospect about whom they knew nothing. Such checks represent sales made through the retail store of Wiswell, Inc.,

to prospects within the territory covered by a certain dealer.

Wiswell maintains an elaborate showroom on S. Michigan Blvd., and encourages retail selling in the salesroom of this store because he believes it lends prestige to the organization.

"The commission on such a sale goes to the dealer closest to the address of the prospect to whom the sale was made," Wiswell points out. "We keep 5 per cent of the commission as a charge for making the sale."

There is no other retail selling by the distributing organization, and thus no conflict whatsoever between distributor and dealer.

Past Records Used

"Dealers are selected first, on their apparent ability as evidenced by past records or experience, and second, on their credit standing," says Wiswell.

"They must have an outside selling force, and must be interested enough to keep a representative stock of refrigerators in a constant floor display."

Wiswell is particularly proud of his service set-up. On the second floor of the headquarters of Wiswell, Inc., is a "classroom" in which a service school is held regularly for a 4-day period once every two months.

The distributing organization requires the dealer to have one of his men trained in the servicing of refrigerators. Dealers are also urged to attend these schools.

The service engineer employed by the Wiswell Co. contacts dealers as soon as they are signed up and schools them on minor repairs.

Service System Satisfactory

So efficient has this service system been in eliminating service worries of the distributing organization that the service engineer can devote most of his time to helping commercial salesmen.

The service department maintained at the headquarters of Wiswell, Inc., under the direction of Harold Guy, is complete, indeed.

The personnel and equipment set-up is such that the distributing organization can guarantee to have any refrigerator in the territory operating again within 24 hours after the call is sent in.

Equipped to handle any service job that confronts them, from commercial machines to multiple installations, the service department has never once gone to the factory for assistance in handling a service job.

They have parts for every piece of equipment that goes into a Kelvinator or Leonard refrigerator, and these parts are stocked in the same fashion as that used by large automobile distributors.

By the mere procedure of giving every part a number, and placing each part in an individual container and putting it carefully away in a cabinet, or in a special wire mesh revolving basket that is easily accessible, the service department has made possible quick deliveries on service parts. The system is so simple that the filling of orders for parts by dealers can be done by the porter or office girls.

On the third floor of the headquarters building is a testing room in which every unit is tested before it is shipped to a dealer. A total of 36 boxes may be tested at one time by the hook-up which the Wiswell organization has installed.

A separate floor is set off for warehousing and packing, and by numbering the refrigerators in serial form there is no confusion in the shipping of the refrigerators.

Wiswell has a number of wholesale representatives, each of whom handles 30 dealers. These representatives con-

tact the dealer at least once a week, giving him advice in sales methods, instructing him on sales promotion, seeing that he has adequate direct mail literature, and checking on the work of the service department.

"We encourage the dealer to use factory sales promotion help and the advertising copy distributed by the factory to the fullest extent possible," Wiswell says. "If a dealer spends his money on promotional work, he will become very interested in selling the product," is the way Wiswell has seen it work out.

50-50 on Local Advertising

"We will go 50-50 with the dealer on local advertising. I set no limits on the extent of this work, as I figure that if the dealer can go the limit, we can too."

Wiswell believes that institutional advertising in large metropolitan newspapers is vitally important to the success of a large distributing organization.

This spring, in cooperation with the factory and the utility company which is also merchandising the Kelvinator line, he is running a full-page ad once a week for 13 consecutive weeks in one paper, and a one-half page ad once a week for 10 consecutive weeks in another newspaper.

'Heavy Artillery' Needed

"It is necessary to use this 'heavy artillery' to make the general public conscious of your product, to get it on their tongues, as well as to sell them on refrigeration through direct appeal methods," he believes.

"Every time an impression of the Kelvinator or Leonard product is made on the minds of one of the buying public, the chances are that he will repeat that impression to one of his neighbors, thereby making the task for some canvassing salesman just that much easier."

OUTDOOR ADVERTISING OF KELVINATOR SHOWS GAIN

DETROIT—The total number of outdoor posters advertising Kelvinator products now up on the boards is in excess of 200 per cent greater than the number which were shown at the same time last year, according to the advertising department of the Kelvinator Corp.

According to the statement made by the advertising department, the lithographing company making the posters is taking orders for posters at the rate of 10 to 1 compared to a year ago. Dealers in small and medium sized towns are as much responsible for the increase in the use of posters as are the merchandisers of Kelvinator refrigeration in metropolitan areas, the advertising department states.

SALES MEETING HELD BY CLEVELAND BRANCH

CLEVELAND—One hundred and fifty dealers, as well as the personnel of the Cleveland Kelvinator branch, held a sales meeting recently in the Guild Hall of the Electrical League Auditorium, with Myles E. Ewing, branch manager, in charge.

"Following Through" was the title of Mr. Ewing's address. Vance C. Woodcox, sales promotion manager; J. S. Sayre, sales manager; E. L. Triffitt, of Brooke, Smith & French, advertising firm, and Miss Marion Sawyer, Kelvinator home economist, were speakers.

The factory sound moving picture was a feature of the meeting.

WESTINGHOUSE DRIVE BRINGS 12,000 SALES

EAST PITTSBURGH, Pa.—Going into the final week of the Westinghouse employees' sales campaign, which closed yesterday, officials reported 12,000 sales, totalling more than a half-million dollars. The proposed goal was one sale for each of the 35,000 employees during the period.

Numbers of requests from other companies for a description of the Westinghouse employee-cooperation plan have been received, according to J. S. Tritle, vice president and general manager of the company.

"Everything from a carton of lamps to a contract for an apartment house installation of ranges and refrigerators is included in the list of sales," according to Mr. Tritle. "This means 150 models of 36 different articles. It represents an additional million dollars worth of sales for the household appliance department."

Sales were made at regular prices through Westinghouse dealers, who are sharing the benefit.

"We hope other companies are impressed by our employees' success in stimulating buying to the extent that they will inaugurate similar plans within their own organizations," he said.

CLEVELAND STORE BUYS COOLERS OF KELVINATOR

CLEVELAND — Taylor's department store, located in the heart of the Euclid Ave. business district, has installed a Kelvinator water cooling system to serve its 1,100 employees and its patrons.

The system includes 24 bubblers, located on the various floors, and refrigeration is supplied at the same time to serve the various soda fountains, restaurants, and tea rooms in the store.

Two Tempprite coolers are connected to two of the new Kelvinator 4-cylinder condensing units in the installation, with two No. 3 equalizer tanks connected into the suction line of each condensing unit. The condensing unit controls are set to cut-in at about 9½ lbs. pressure, and to cut-out at 6 or 7 lbs. vacuum.

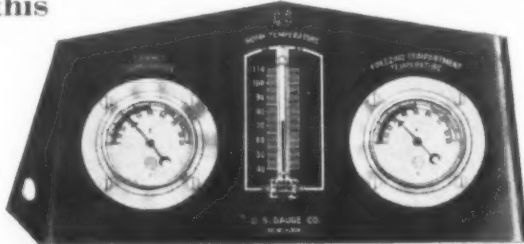
The water piping is so arranged that the water goes through the Tempprites in parallel. Thermometers are mounted in wells in the water lines, one in the circulating return line showing 40° to 50° water, and the other in the cold water exit line near the coolers, showing within two degrees of 40° at all times.

A second Kelvinator department installation in the Ohio district recently was at The Big Store, Cincinnati. This circulating system uses a Tempprite with two Kelvinator R-41 condensing units and two No. 3 equalizer tanks.

LEONARD DEALERS MEET

PITTSBURGH—The J. A. Williams Co., distributor of Leonard electric refrigerators in western Pennsylvania, held a dealer meeting in the Fort Pitt Hotel recently, at which M. E. Golomb, treasurer and sales manager of the distributing organization, presided.

DEALERS! DEMONSTRATE Temperature of INTERIOR OF CABINET, FREEZING COMPARTMENT and ROOM with this



U. S. PORTABLE THREE THERMOMETER PANEL

THIS device placed on top of refrigerator enables you to show your prospects the difference in these three temperatures and makes it easier for your showroom demonstrators to close sales.

No alteration to the cabinet or mechanism—no holes to drill—no installation labor.

Many of the country's most successful dealers are employing this convincing demonstration to prove the efficiency of their refrigerators and speed up sales volume.

Order today—PRICE \$10.00 prepaid

WE ALSO manufacture individual cabinet temperature thermometers as well as panels containing the same three instruments as above described, for original and permanent installation by the manufacturer.

The mechanical refrigerators of tomorrow will include Indicating Thermometers as standard equipment.

UNITED STATES GAUGE CO.

44 Beaver Street

New York

NEW McCORD EVAPORATOR GUIDE BOOK

SHOWS THE McCORD EVAPORATOR TO BE USED IN ANY TYPE OF BOX AND INSULATION, AND IN ANY GIVEN CLIMATE.

May We Send You A Copy?

McCORD RADIATOR & MFG. CO.

DETROIT, MICH.

4 DISTRIBUTORS NAME DEALERS FOR LEONARD

DETROIT—Development of dealer organizations of four Leonard electric refrigerator distributors is reported by the Leonard Refrigerator Co.

Capital Paper Co., Indianapolis distributor, announces the following new dealers: Keithley Sales & Service, Michigan City, Ind.; Coffin Music Shoppe, Warsaw, Ind.; Guarantee Tire & Rubber Co., Indianapolis; William Zwick & Son, Decatur, Ind.

Bennett & Powell, Plymouth, Ind.; Grouch & Foster, Fortville, Ind.; Nashville Service Station, Nashville, Ind.

Ballou, Johnson & Nichols Co., Providence, R. I., has appointed the following: Fiske Furniture Co., Whitinsville, Mass.; George P. Nichols, Foster Center, R. I.; H. B. Whitman, Ernest A. Tefft, and Marshall & Co., Providence, R. I.; General Appliance Co., New London, Conn.; Albert L. Carpenter and Munro Bros. Electrical Supply Co., Fall River, Mass.

Auto Equipment Co., Leonard distributor in Omaha, has appointed these new dealers: A. P. Andersen, Butte, Nebr.; J. J. Kabley, Crete, Nebr.; and Frank Turk, Norfolk, Nebr.

In Huntington, W. Va., the Foster-Thornburg Hardware Co., Inc., distributor, announces the following appointments: Jones-Morgan Hardware Co., Oak Hill, Ohio; Modern Appliance Co., Charleston, W. Va.; George Bros. Electric Co., Ironton, Ohio.

FRENCH INDUSTRIALISTS GUESTS AT TRUPAR PLANT

DAYTON—Trupar Mfg. Co. played host recently to a group of French industrialists which is touring the United States investigating American manufacturing methods.

H. J. Hunt, president of Trupar, was chairman of the reception committee appointed by the Dayton Chamber of Commerce to receive the delegation, but H. Hardy, export manager of the Mayflower organization, served in his place.

Although only a few of the party spoke English, interpreters walked through the Mayflower assembly plant with the party, and gave a full explanation of the operations. Mayor A. C. McDonald of Dayton was introduced to the group.

The visiting delegation included: A. Bosselut, Augustin Giroud, Maurice Trouillet, U. Ammann, Pierre Gardell, Jean Coutrot, Leon Ozouf, M. Coq, and B. C. O'Donnell.

HOME ECONOMIST CONDUCTS KELVINATOR SCHOOL

PEORIA, Ill.—Thelma M. Williams, Kelvinator home economist, has closed a week of demonstrations in cold cookery in the show room of the Koren Kelvinator Co., 138 North Jefferson Ave.

Miss Williams met various clubs throughout the city each afternoon and evening, and aided individual housewives during the mornings.

The occasion of Miss Williams' demonstrations was the opening of a new showroom by the Koren Kelvinator Co., under the management of Louis Koren and J. A. Fleming.

KELVINATOR OPERATES IN MOROCCO PARLOR

CASABLANCA, Morocco—French soldiers stationed in Kasbah-Tadla, a military base in the still unpacified zone of the Atlas Mountains, need not suffer from thirst or a lack of ice cubes.

A Kelvinator has been installed in a "thirst parlor" there by the Societe Anonyme Electra, 24 Rue Guynemer, this city. The refrigeration division is headed by Pierre Godquin, formerly an attache of the Kelvinator factory export division.

NEW KELVINATOR DEALER OPENS IN ROCHESTER

ROCHESTER, N. Y.—Headquarters of Wegman Brothers, new Kelvinator dealer here, are located at the corner of W. Main, Clarissa, and W. Broad Sts., facing the intersection of seven Rochester business streets. It is estimated that 100,000 people pass the building daily.

Sales manager of the new Kelvinator outlet is Frank H. Floring. Service and installation departments are directed by Thomas Carlisle.

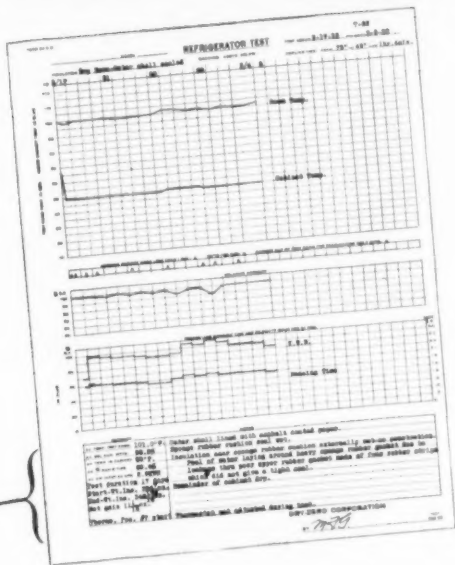
MAJESTIC OUTLET NAMED

CHICAGO—The North Coast Electric Co., Seattle, Wash., has been appointed a Majestic distributor, according to announcement by Grigsby-Grunow Co., here. Both the radio and refrigeration lines will be handled.

It's Performance that counts with them



Women neither understand nor are interested in B.t.u.'s or K.W.H.'s. But they do know whether a refrigerator functions satisfactorily and economically. Their opinion has no court of appeal. Be sure to give them proved efficiency in the insulation in your refrigerator. It's performance that counts.



Av. temp. test room 101.0°F.
Av. rel. hum. ditto 98.5%
Av. temp. in cabinet 50°F.
Av. % run's time 60.4%
Av. KW input 24 hrs. 2.9 KWH
Test duration 17 days
Start—Wt. Ins. 336 1/2 oz.
End—Wt. Ins. 348 1/2 oz.
Net Gain. 12 1/2 oz.

Outer shell lined with asphalt coated paper.
Sponge rubber cushion seal wet.
Insulation near sponge rubber cushion externally wet—no penetration.
Pool of water laying around heavy sponge rubber gasket due to leakage through poor upper rubber gasket made of four rubber strips which did not give a tight seal.
Remainder of cabinet dry.



Av. temp. test room 100°
Av. rel. hum. ditto 99%
Av. temp. in cabinet 49°
Av. % run's time 98.4%
Av. KW input 24 hrs. 4.7 KWH
Duration test 17 days
Wt. Ins. at end 647 1/2 oz.
Dehydrated 597 1/2 oz.
Net Water 50 1/2 oz.

Mold present in unit compartment.
Fibro-Felt in back corner opposite unit, soggy.
All pieces quite wet on inner side.
Bottom piece shows rust marks from liner.
Door gasket very good, no moisture on door or frame.
Insulation not weighed before test so after test it was dehydrated and that weight taken as starting weight.

What do housewives care about K.W.H.'s or R.P.M.'s? Or about B.t.u.'s? It's refrigerator performance they want. They may not understand the engineering technicalities of one refrigerator compared with another. But they do know how to compare the performance of their refrigerators with their neighbors'. If the housewives of America are critical of the performance of any refrigerator after the test in their kitchens of two, three, five years of use—that refrigerator is headed for the discard.

It is easy to assume that hidden refrigerator parts such as insulation make little difference—that one is about as good as another. Yet, next to the compressor, nothing is more important than good insulation. That importance begins the first day the refrigerator is put into operation. But it is magnified as months pass into years. For it is moisture that reduces the efficiency of most insulations. And the real test comes after a summer or two in moist warm kitchens.

The accompanying charts show the results of tests of two insulations which apparently differ but a few points in heat transmission rating. The tests were made with the same refrigerator

under identical conditions, first with an insulant whose makers claim an efficiency of .26 B.t.u., then with Dry-Zero to which published tests by the U. S. Bureau of Standards gives an efficiency of .24 B.t.u.

With Dry-Zero Pliable Slab insulation the running time of the refrigerator was 34% less. With the other insulation, the refrigerator required 68% more current. Further, the other insulation absorbed four times as much moisture as Dry-Zero.

Such tests hold important information for all interested in better electric refrigeration. They show that slight differences in the figures that represent the measurement of heat transference make great differences in operation.

Dry-Zero Pliable Slab Insulation gives assurance of continued efficient, economical operation for the life of the refrigerator.

Dry-Zero Corporation, Merchandise Mart, Chicago, Illinois
Canadian Office, 465 Parliament St., Toronto.

THE MOST EFFICIENT COMMERCIAL INSULANT KNOWN DRY-ZERO

LEONARD OFFERS \$500 FOR OLDEST ICE BOX

DETROIT—The sum of \$500 in cash is being offered by the Leonard Refrigerator Co. to its dealer or distributor who finds the oldest Leonard ice box, with date and place of purchase satisfactorily established.

The purpose of the search, according to A. M. Taylor, director of advertising, is this: "Leonard distributors and dealers cannot locate the oldest box without first locating and contacting a great number of old Leonard users."

"And they cannot call on those users without finding a large proportion of immediate prospects for Leonard electric refrigeration."

The box itself can be used later for advertising purposes.

The campaign, which starts June 1, closes July 1. Each distributor participating in the campaign will make an offer of a Leonard electric refrigerator, model PL-550 for the oldest ice box discovered in his territory, provided it does not prove to be the oldest in the country and thus eligible for the company's \$500.

Newspaper advertising during the period of the campaign will carry coupons for the use of Leonard users in entering their boxes in the contest. The tie-in provided by these coupons is hoped to result in a good prospect list.

'WETMORE DAY' OBSERVED BY BOSTON BASEBALL NINE

BOSTON—The Boston Braves and the Phillies had to share the spotlight at a recent game here with Bruce Wetmore, president of Wetmore-Scott Co., Boston distributor of Westinghouse refrigerators. Mr. Wetmore is a director of the Braves.

A parade of 150 members of the Wetmore-Scott organization, headed by the band of the Malden Post of the American Legion, marched from company headquarters to the ball grounds. Entering the field, the column circled the diamond and came to "company front" before Mr. Wetmore's box.

Banners carried by the men said that Westinghouse refrigerator sales in Boston have shown a 426 per cent increase over the corresponding period of 1931, so far this year.

Each salesman gave Mr. Wetmore a gift in the form of a refrigerator sale made the day before, and Mr. Wetmore presented three autographed baseballs to the men making the greatest number of sales for the day.

650 ATTEND KELVINATOR COOKING SCHOOL

GREEN BAY, Wis.—More than 650 people attended the cooking school of the Johnson Music Store, Kelvinator dealer in Ironwood, Mich., which was conducted by Mrs. Kate Peterson recently.

The school was advertised over the local radio station, and the sessions of the school later went out over the air to the community. A loud speaker amplifier was used in the auditorium so that everyone might hear.

HIGH SCHOOL CAFETERIA USES KELVINATOR

SIOUX CITY, Iowa—The cafeteria of the Central High School has been furnished with Kelvinator refrigerating equipment.

M. H. Kirchbaum, dealer here, made the sale to the school. Mr. Kirchbaum reports that Kelvinator sales in Sioux City are three times as great for 1932 as they were for the corresponding months of 1931.

APPOINTS NEW DEALER

PROVIDENCE, R. I.—The Post & Lester Co., distributor of Kelvinator refrigerators in this territory, has appointed W. W. Rafferty of Putnam, Conn., as a Kelvinator dealer.

The Rafferty Co. has been in the heating and plumbing business for 30 years.

Fulco Refrigerator COVERS

Insure deliveries without scratched or broken enamel. Write for prices.

Fulton Bag & Cotton Mills

Dealers! You need these

Finest Quality Enamel. PRICES RIGHT.

orders filled promptly.

85¢ 450¢

'Liquid Cooling' Campaign Features Kelvinator Commercial Contest

By Phil B. Redeker

DETROIT—Second of the Kelvinator Corp.'s campaigns to stimulate sales activity in the commercial field is the "Liquid Cooling" campaign which opened May 15 and which will close July 15.

The current special sales and promotion efforts on water cooling and milk cooling follow very closely the plan of the meat market campaign, the first of the Kelvinator series of special movements in the commercial field, states Commercial Specialist John B. Scott, who is in charge of these operations.

The campaign is to stimulate the sale of commercial units to meat markets, 115 salesmen gaining the special prizes offered for the sale of commercial units to meat merchant prospects during the 60-day period of the drive, Scott states.

Two Surveys Used

Like the drive on meat markets, the "Liquid Cooling" campaign will center about a survey (or rather, two surveys, one of water cooling and the other of milk cooling) which demonstrate the manner in which modern refrigeration equipment makes water cooling and milk cooling profitable.

These surveys, Kelvinator Corp. officials believe, have a double value. They awaken the prospect to the possibilities of increasing his profit over a sustained period with new equipment, and at the same time place in the commercial salesman's hand a "conversational" guide in selling to a special division of the commercial field.

Salesmen, it has been discovered, generally had but a bare "talking" knowledge of their subject when they went to approach a commercial prospect. It was felt that lack of knowledge of the problems of the commercial prospect was often responsible for the salesman's disinclination to seek out commercial business.

Survey Beneficial

While the Kelvinator Corp. officials are satisfied that these field surveys have accomplished their main purpose in stimulating the salesmen to activity in the commercial line by giving them a sales "tool" piled with facts, they also feel that other results accomplished by these surveys have been almost equally beneficial.

Chief among these ensuing results has been a marked manifestation of interest by prospects in the printed booklets in which the data gathered in the survey is presented in interesting form, and a great amount of publicity and comment which has been printed in the trade press relative to the survey.

A very definite plan of action for both the milk-cooling and water-cooling campaigns was worked out by the Kelvinator Corp. for use by the dealer. Various steps in the campaign, such as study of the sales-closing plan, program for campaign sales meetings, use of direct mail pieces, and methods of canvassing and recording of prospect's names are included in the printed "Sales Plan" pamphlets.

These pamphlets comprised the first

material on the campaign, and have already been sent out to dealers.

Next step in the preparation for the campaign was the distribution of "sales closer" material, booklets which point out to the salesman the primary sales value of certain points brought out in the survey.

This booklet "puts the finger" on the parts of the accumulated data which can be placed before the prospect as reasons for the purchase of new refrigeration equipment.

After the dealer has prepared for his campaign according to the sales plan worked out for him, and has given his salesmen instruction in the use of the survey through the "sales closer" booklets, a mailing of four pieces of literature to prospects in his territory.

Mailing Pieces

Preceding the distribution of the booklets, a mailing of four pieces of literature is made to each prospect. The first three pieces are the regular Kelvinator mailing pieces dealing with its commercial lines; the fourth piece calls attention to the forthcoming distribution of the survey.

A prize contest is being tied in with the campaign. Cash prizes are to be given for the greatest amount of commercial sales in dollars, with double credit being given for all water cooler and milk cooler sales. There will be added special prizes for greatest volume of sales on water coolers and milk coolers.

Tradeways, Inc., again made the surveys and prepared the data in printed form. In the water cooling field the investigators studied the drinking water problems of offices, factories, and institutions, and all kinds of retail business establishments. Executives and factory workers, storekeepers and customers were interviewed.

Study of Milk Cooling

Methods and costs of milk producing by large and small dairymen in 19 different states were studied to gain data for the milk-cooling survey. Various types of refrigeration were tested. Quantity buyers of milk were interviewed. Other sources of information tapped included published statistics, legal codes, and private research documents.

The booklet on water cooling explains how cold water increases efficiency by reducing fatigue in industry; how it builds good-will in the store or theatre; and how it makes the rental problem easier. It closes with suggestions as to the selection of proper equipment.

How greater profits can be built with quality milk, why right refrigeration is vital in milk handling, and the economies and efficiency of modern electrical milk cooling, are the main themes of the milk-cooling survey. Presentation of the subject matter is in the form of information on successful and health-protecting methods uncovered by the investigators.

JAPANESE DEALER USES DIRECT MAIL CAMPAIGN

SAN FRANCISCO—S. Mogi, a Japanese Kelvinator dealer on the Pacific Coast, sells mostly among his own people.

Here is the text (translated) of a Japanese post card which he sent out recently to prospects in his territory:

"On the top of civilization there is electric refrigeration."

"For domestic purpose, Kelvinator cabinet for \$189.50 up small monthly payment, small power consumption, absolutely no noise, no vibration."

"For restaurant purpose, we refrigerate all the boxes you may have now, we can furnish beautiful refrigerated cabinet with drinking stand for small monthly payment also."

"Grocery refrigeration problem can easily be solved by the modern electric refrigeration."

"New installation of meat market is our specialty and satisfaction guaranteed."

NIKKI NORGE BROADCASTS HELD IN CLEVELAND

CLEVELAND—Nikki Norge, played by Peggy Graham and representing Norge refrigeration, may be heard daily at 4 p. m. C. S. T. over Station WTAM. The program is sponsored by Strong, Carlisle & Hammond Co., distributor here.

No advertising material is used during the broadcast of the program. The Nikki Norge program each day outlines one of the old legends of the Norsemen. At the end of the program the announcer tells listeners to see local newspapers for the Norge advertisement.

The advertisement tells where and when the youngsters may see the Marionette show sponsored by Nikki Norge, at which she attends in person.

This Town's 100% Kelvinator

DIMOCK, S. D.—Dimock is a 100 per cent Kelvinator town, it is reported. Out of a population of 30 inhabitants, 18 Kelvinators are owned. No other make of electric refrigerator is represented. The town is served by the Northwestern Public Service Co.

WICHITA KELVINATOR FIRM OPENS NEW SHOW ROOM

WICHITA, Kan.—The Wichita Kelvinator & Equipment Co. has just taken possession of its new show room at 152 N. Market St.

An interior of grays, whites, and blacks, with all offices, service rooms, and installation rooms at the back, is a feature of the new location.

Karl Donovan is vice president and general manager of the company; A. G. McInay, secretary-treasurer; E. C. Freeman and E. D. Lyons, household supervisors; Harry Haid, manager of commercial sales; Dwight Morris, wholesale representative; W. P. Watson, service manager, and Bonnie Harwood, home economics head.

Salesmen for the organization include: E. M. McFarland, Fred Noel, A. J. Reed, Beatrice Mallory, and Sam Chism.

DOWN PAYMENT MADE IN 5- AND 10-CENT STAMPS

PORTLAND, Me.—A down payment of \$20 in 5- and 10-cent postage stamps was accepted here by Lloyd Heldman, of the Cumberland County Power and Light Co., on the purchase of a Kelvinator.

BUYER'S GUIDE

Manufacturers Specializing in Service to the Refrigeration Industry

SPECIAL ADVERTISING RATE (this column only)—\$12.00 per space. Payment is required monthly in advance to obtain this special low rate. Minimum Contract for this column—13 insertions in consecutive issues. All advertisements set in uniform style of type with standard border. Halftone engravings of 100-line screen, either outline or square finish. No reverse cuts or heavy black effects. No charge for composition.



SELF-LIFTING PIANO TRUCK CO. FINDLAY, OHIO

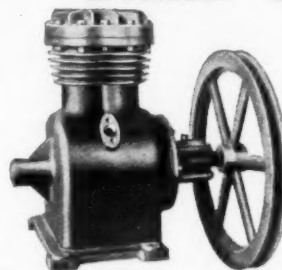
Save one man on deliveries. Make heavy lifting easy—quick. Eliminate damage to cabinets—floors—walls.

X-70 REFRIGERATOR TRUCKS
Fit all cabinets, with or without legs, or in the crate. Capacity, 1,200 lbs. All steel frame, 4" rubber tired wheels, one truck with top casters and handles for tilting and rolling into delivery truck and on the stairs. Only pads touch cabinet. Last a lifetime. Complete set \$34.50. Ball bearing swivel casters on one end, \$5 extra.

X-60 REFRIGERATOR TRUCKS
Handle leg cabinets only. Per set, \$31.50. Spring steel hooks to convert into X-70 available separately. Ball bearing swivel casters on one truck, \$5 extra.

FINDLAY REFRIGERATOR TRUCKS
For leg cabinets only—padded steel frames—4" rubber tired wheels. Per set, \$18.00.
Manufacturers of Trucks for 32 Years

BARE COMPRESSORS



New 1/6 H. P. Twin 1 1/4" x 1 1/4"

For Sulphur Dioxide or Methyl Chloride

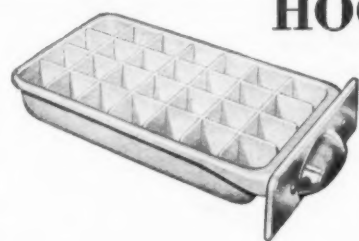
Other Sizes 1/6 H. P. to 50 H. P.

"PARKER" Refrigeration Since 1899

H. C. PARKER, LTD.

2600 Santa Fe Ave. (Factory), Los Angeles, California
510 Larkin Street, San Francisco, California
392 Clifton Ave., Newark, New Jersey

HOOSIER PARTS



Complete—Assembled—Packaged—Ready for shipment in your Refrigerator. Typical 28-cube tray shown is aluminum with patented Alumilite Anodic treatment and chrome plated handle—size overall 5 11/16" wide by 10 1/4" long by 1 5/8" deep with 6 7/16" x 1 15/16" Handle. Many other sizes and styles. Write for details.

Dessert Trays—Defrosting Pans

HOOSIER LAMP & STAMPING CO., EVANSVILLE, IND.

SURECOLD

\$99.50 Retail Price

Porcelain lined cabinet.

Simplified condenser with only three moving parts.

A better job that's more for the money.

The Warner Steel Products Co.
Ottawa, Kans., U. S. A.

Fruit & Vegetable Baskets Mechanical Springs Wire Food Shelves

We give prompt service and excellent workmanship. Send us your inquiries.

L. A. YOUNG SPRING & WIRE CORP.
9200 Russell St. Detroit, Mich.



Electrical Refrigeration Parts and Supplies

We Carry in Stock:

COMPRESSORS—EVAPORATORS—THERMOSTATS—VALVES AND FITTINGS—THERMOSTATIC AND AUTOMATIC EXPANSION VALVES—COPPER TUBING—CONTROLS—AND MANY OTHER PARTS

Melchior, Armstrong, Dessau Co.
116 Broad Street, Telephone Bowling Green 9-8870, New York, N.Y.

A big waiting market for Commercial Refrigeration Equipment

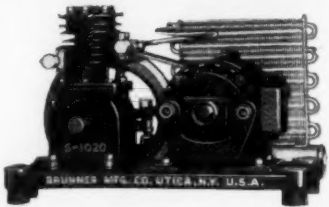
BOTTLE COOLERS

Five Models for Your Commercial Compressor Units. Now is the season to "cash in" on this sure market.

Ask for Catalog "R" and tell us what line of commercial compressors you handle.

S & S PRODUCTS CO. 15 Ree St. LIMA, OHIO
Exclusively Bottle Cooler Manufacturers

PROVEN BUSINESS BUILDERS



26 years of experience stand behind Brunner's ability to build a quality product on a price basis that helps you get the business. Get the complete Brunner story. Refrigeration Division, Brunner Manufacturing Co., Utica, N. Y.

HIGH SIDES and COMPRESSORS by BRUNNER

Delivery--Warehousing Service

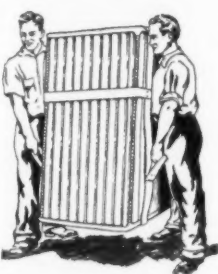
We are specialists in warehousing, delivering and installing all types of Domestic and Commercial Refrigerators.

Our Warehouse is Fireproof, steam heated and protected by sprinkler system. We have our own Railroad Sidings.

Rates Are Nominal
Correspondence and Inspection Invited

M. & L. CO.

177 Pacific Street, Brooklyn, N. Y.
168 E. 33rd St. New York City 711 E. 139th St.



Specially designed REFRIGERATOR COVER and CARRYING HARNESS

Form-fitting covers made of canvas outside—mole-skin lining inside—with thin felt filling, firmly stitched. Impossible to rip. The "E-Z" Lift web harness eliminates strained backs and delivers the heaviest refrigerator with a minimum of effort. Easy grip.

Web Harness—\$7.00 Complete
Covers—\$8.00, \$10.00 and \$12.00
America's largest pad manufacturers

NEW HAVEN QUILT & PAD CO.
80-86 Franklin St., New Haven, Conn.

TO THE CANADIAN TRADE

You can get quicker delivery at lower cost by ordering from us

We carry in Stock

COMPRESSORS—COMPRESSOR UNITS—NON-FROSTING COMMERCIAL COILS—BOILER TYPE COILS—COPPER TUBING—FLARE AND SOLDERING FITTINGS—THERMOSTAT AND PRESSURE CONTROLS—DEHYDRATED OIL—AND MANY OTHER PARTS.

THE ARCTIC ICE & FUEL CO., LIMITED
Winnipeg, Man.

A NEW FIN COIL by PEERLESS

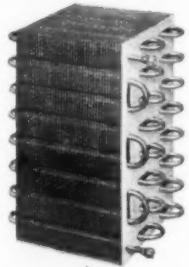
Wedge-Locked and Edge-Locked Aluminum Fins on Tinned Copper Tubing—Absolute Metal to Metal Contact.

A Superior Coil in which Soldered Return Bends have been eliminated.

Priced to meet 1932 conditions.

Write—Wire for Catalog.

PEERLESS ICE MACHINE CO., 515 W. 35th St., Chicago, Ill.



REQUESTS FOR INFORMATION

Please refer to the 1932 Refrigeration Directory and Market Data Book for a complete list of all manufacturers of refrigeration equipment, parts, materials, supplies and accessories; also for all available statistical data on sales of refrigeration equipment, distribution methods, etc.

To obtain a copy of this book send \$2.00 to Business News Pub. Co., 550 Macabees Bldg., Detroit, Mich.

Advertisers will be given preference in published answers to requests for buyer's guide service, but a complete list of all known suppliers will be mailed if stamped, self-addressed envelope is enclosed with inquiry.

Readers who can be of assistance in furnishing correct answers to inquiries, or who can supply additional information, are invited to address Electric Refrigeration News, mentioning query number.

Sales Figures

Query No. 798—"We are wondering if you have records available as to the standing of the various manufacturers in reference to their sales for the first quarter periods of the years 1930, 1931, and 1932? We are making this inquiry as the same comparative data is put out by the automobile manufacturers."

Answer—"We are unable to provide you with the sales statistics of individual manufacturers, as this information is not made public. All the figures available (totals only) were published in the 1932 REFRIGERATION DIRECTORY and MARKET DATA BOOK."

Porcelain Panels

Query No. 799—"We have been manufacturing a 6- and 10-ft. full-display market case, and are contemplating installing porcelain panels on these cases. We will appreciate it if you will advise us the names of manufacturers of porcelain panels."

Answer—"A complete list may be found on page 208 of the 1932 REFRIGERATION DIRECTORY and MARKET DATA BOOK."

Mayflower Refrigerators

Query No. 800—"Could you please give me the address and name of the manufacturer of the Mayflower electric refrigerator?"

Answer—"Trupar Mfg. Co., 140 Davis Ave., Dayton."

Rice Refrigerators

Query No. 801—"We are unable to locate the factory making the Rice refrigerator, and as some of these were sold several years ago, we wish to secure some repair parts for them. Please advise us the address of the manufacturer."

Answer—"Rice Electric Refrigeration, Inc., 36 Flatbush Ave., Brooklyn, N. Y."

Republic Tool Products Co.

Query No. 802—"I will appreciate very much receiving information as to the present address of the Republic Tool Corp. This concern I understand manufactures refrigeration units."

Answer—"Dayton, Ohio."

Champion Compressors

Query No. 803—"We occasionally receive inquiries for repair parts for Champion compressors, and would appreciate your advising us where such parts may be obtained."

1932 Refrigeration Directory

Query No. 804—"Does your 1932 REFRIGERATION DIRECTORY and MARKET DATA BOOK contain specifications, descriptions, pictures, etc., of all refrigerators built, as well as prices?"

Answer—"Specifications of 240 models made by 33 manufacturers of household refrigerators were published in the May 18 issue of ELECTRIC REFRIGERATION NEWS. The 1932 REFRIGERATION DIRECTORY and MARKET DATA BOOK shows: sales records (totals) of refrigeration in recent years; potentiality in local markets; number of homes owning electric refrigerators in comparison with those owning automobiles, radios, washing machines, etc.; methods of distribution (based on a survey of 497 distributors and 20,879 dealers); more than 30 charts analyzing data."

As a buyers' guide, it lists all manufacturers of industrial, commercial, and household equipment, cabinets, parts, supplies, materials, and tools, in four ways, alphabetically, by trade names, by classified products, and geographically."

Specifications

Query No. 805—"We note that in your issue of May 18 you include complete specifications of all household electric refrigerator lines. Will it be possible to purchase a quantity of several hundred reprints of this information, and at what price?"

Answer—"These specifications will probably be revised and reprinted in the June 29 issue. We do not plan to make any reprints of this material. Extra copies of the May 18 issue may be purchased at 10 cents each."

M & E Refrigerators

Query No. 806—"What refrigerant is used by the M & E refrigerator, and is it a side line made by the manufacturer of some other line?"

Answer—"The Merchant & Evans Co. manufactures refrigerators in Philadelphia. Refrigerant is sulphur dioxide."

N.E.L.A. MAY SPONSOR WORLD FAIR EXHIBIT

NEW YORK CITY—An exhibit covering uses of electricity in the industrial, commercial and home life of America may be held by the National Electric Light Association at A Century of Progress, Chicago's 1933 World Fair.

Passed unanimously by the Public Policy committee of the N.E.L.A., the proposal to hold such an exhibit will be carried through if member companies of the N.E.L.A. agree to support it financially.

Following a meeting recently at which the Public Policy committee voted to recommend to the member companies that they support such an exhibit through individual contributions, a letter was sent to the companies. E. W. Lloyd, president of Commonwealth Edison Co., is chairman of a special committee which considered the proposal.

Nine Group Exhibits

The proposed exhibit would cover 8,500 sq. ft., and would be divided into nine groups: domestic, commercial, industrial, rural, general (medical, dental, etc.), science of seeing, school room, lamps and lighting, and spectacular displays.

The domestic lighting area would show the use of residential equipment and lighting. One of the rooms would be furnished with complete air conditioning equipment. Operation of the various devices would be shown as much as possible, and various makes of appliances would be shown from day to day.

Application of motor-driven appliances for reducing labor in the home, the part of lighting in interior decoration, the use of electrical appliances for health would be shown.

Commercial Displays

In the commercial display, the importance of adequate illumination, cooling, air conditioning, electrical communication, motor-driven office appliances would be included.

In this division would be the exhibit of display refrigeration, heating, humidification and other equipment for modern stores, etc. A comprehensive display of electrical advertising effects, special uses of lighting (airport, football field, etc.) would be shown.

Model Factory

A model factory, with modern methods of air conditioning, lighting installations, utility and health lighting, would be a part of the industrial group. Every sort of application of electricity to such equipment as welding machines, heating and annealing ovens and furnaces, etc., would be included.

In addition to household uses on the farm, the rural display would show milk cooling, pumping, feed cutting, hoisting, soil heating, equipment, etc.

'Science of Seeing'

The "Science of Seeing" booth would contain machines demonstrating the speed of vision, glare, and other lighting and vision fundamentals.

The school room demonstration would show an adequately lighted school room, with radio, moving picture machine, air conditioning and ventilation, and other equipment used in advanced school work.

The lamps and lighting display is self explanatory. For this division an animated display showing the various elements of electric refrigerators, their functions, and how they work, is planned.

The spectacular display would show various scientific phenomena using electricity.

FRIGIDAIRE AIR CONDITIONER DRIVE LAUNCHED

(Concluded from Page 1, Column 2)

hold and commercial prospects are a part of the sales promotion program, and full-page advertisements have been running for months in *Colliers*, *Fortune*, *Time*, *Business Week*, *Forbes*, and *The Journal of the American Medical Association*.

Two slogans, "Turn on the cold," and "Comfort at the flick of a switch," are being used in the advertising.

"Our most important centers so far as air conditioning sales are concerned have operating displays in the showrooms of distributors and dealers, where 'hot' prospects are taken to actually feel the conditioned air."

SPARTON DEALERS HOLD SALES CAMPAIGN

WILMINGTON, Del.—Sparton electric refrigerator dealers throughout the Delaware-Maryland-Virginia peninsula held a peak-of-the-season campaign recently, during which, through telephone canvass and newspaper advertising, they invited prospects to open house in their stores.

The campaign, sponsored by the F. R. Gooding Co., distributor, was entered in Wilmington by the following: George C. Tunis Co., Louis H. Dougherty Co., Wesco, Inc., and F. R. Gooding Co.

THE CONDENSER

PAYMENT IN ADVANCE is required for advertising in this column. The following rates apply:

POSITIONS WANTED—Fifty words or less, one insertion \$2.00, additional words four cents each. Three insertions \$5.00, additional words ten cents each. ALL OTHER CLASSIFICATIONS—Fifty words or less, one insertion \$3.00, additional words six cents each. Three insertions \$8.00, additional words sixteen cents each.

REPLIES to advertisements with box numbers should be addressed to the box number in care of Electric Refrigeration News, 550 Macabees Building, Detroit, Mich.

POSITIONS WANTED

SALES EXECUTIVE. Seven years' experience in refrigeration has brought me in contact with every major electric utility operating and holding company in the United States. Also acquainted with electrical distributors and jobbers on national scale. Now employed by one of the largest electrical manufacturers. Reason for desiring change can better be explained through personal interview. Box 459.

FRANCHISE WANTED

REFRIGERATOR DISTRIBUTOR with a successful merchandising background, is interested in a competitive Oil Burner proposition for the District of Columbia and Maryland. Box 468.

SERVICE TRAINING

REFRIGERATION SERVICE TRAINING in five weeks. A practical, concise and comprehensive course to prepare wide awake men of limited time for new opportunities. Theory, problems, trouble shooting, overhauling on all systems taught. Many come to our New York shop for practical experience. HERKIMER REFRIGERATION INSTITUTE, 1819 Broadway, New York City.

A FREE SERVICE

To Electric Refrigeration Dealers

When in need of trained men for installing, servicing, selling, etc.—patronize our FREE PLACEMENT BUREAU. Competent men available in all sections. Write, 'phone or wire—no obligation.

Utilities Engineering Institute

Dept. 962, 404 N. Wells St., Chicago, Ill. Ambitious Men interested in bettering their opportunities, are invited to write for full information on plan for training on all types of Electric Refrigerators.

CENSUS BUREAU RELEASES RADIO WHOLESALE FIGURES

WASHINGTON, D. C.—Radio merchandise in the hands of wholesale outlets at the end of the last quarter of 1931 represented a 42.01 per cent decrease in value from that on hand at the end of the third quarter of the year, while sales increased 30.47 per cent in value, according to statistics issued by the Bureau of the Census.

At the end of the third quarter of 1931, radio merchandise on hand was valued at \$5,935,400, and at the end of the last quarter, at \$3,441,849, the figures showed.

In the third quarter, the average stock per wholesaler was shown to have been worth \$16,672, and in the latter period, \$9,668, indicating a considerable reduction of stocks on hand.

The average value of sales per dealer in the third quarter of 1931 was \$32,586, and in the final quarter \$42,514.

HOTPOINT RANGE CAMPAIGN TO OPEN JUNE 20

(Concluded from Page 1, Column 4)

used as methods of making sales during the week.

All departments of Edison General Electric Appliance Co., Inc., are cooperating in the plans, according to Pierre L. Miles, range sales manager.

W. H. BonDurant, manager of dealer sales, and H. K. Dewees, manager of public utility sales, will cooperate with retailers in special campaigns. M. H. Beekman, of the retail merchandising department, has laid out special merchandising helps, and Miss Frances Weedman, home economics director, will cooperate in the staging of cooking schools and demonstrations.

UTILITY TOPS QUOTA IN SALES DRIVE

EL PASO, Tex.—The Panhandle Light & Power Co., utility outlet for the E. O. Cone Co., distributor here for General Electric refrigerators, attained 183 per cent of quota in a recent sales campaign which was a part of the General Electric refrigeration department's war against sales resistance.

The power company was classified as the Aviation Division of the E. O. Cone Field Army and the over-quota achievement was made possible through the efforts of the following branch manager: Edward Strentz of Wheeler, A. J. Long of Channing, J. O. Donavan, Miami, J. H. Drumrine, Gruver, M. C. Waddington, Skellytown, J. L. Boaz, Lefors, and L. J. Roberts of Guymon.

Subscribe Now and Save Money

Special Offers

Note—Combination rates are for United States only.

COMBINATION OFFER No. 1
Electric Refrigeration News 1 Year and
Directory and Market Data Book
Combination Price \$4.00. Saves You \$1.00

COMBINATION OFFER No. 2
Electric Refrigeration News 2 Years and
Directory and Market Data Book
Combination Price \$6.00. Saves You \$2.00

COMBINATION OFFER No. 3
Refrigerated Food News 1 Year and
Directory and Market Data Book
Combination Price \$2.00. Saves You \$1.00

COMBINATION OFFER No. 4
Refrigerated Food News 1 Year and
Electric Refrigeration News 1 Year
Combination Price \$3.50. Saves You \$0.50

COMBINATION OFFER No. 5
Directory and Market Data Book and
Electric Refrigeration News 1 Year and
Refrigerated Food News 1 Year
Combination Price \$4.50. Saves You \$1.50

COMBINATION OFFER No. 6
Directory and Market Data Book and
Electric Refrigeration News 17 Weeks
Combination Price \$2.00. Saves You \$1.00

Group and Foreign Rates

UNITED STATES and Possessions and Pan-American Postal Union Countries.

	Electric Refrigeration News	Refrigerated Food News	Both News Papers
1 subscription	\$3.00	\$1.00	\$3.50
5 or more, each	2.75	.95	3.25
10 or more, each	2.50	.90	3.00
20 or more, each	2.25	.85	2.75
50 or more, each	2.00	.80	2.50

CANADA (Prices include tariff charge of 50¢ a copy)

	Electric Refrigeration News	Refrigerated Food News	Both News Papers
1 subscription	\$6.00	\$2.00	\$7.00
5 or more, each	5.75	1.95	6.75
10 or more, each	5.50	1.90	6.50
20 or more, each	5.25	1.85	6.25
50 or more, each	5.00	1.80	6.00

ALL OTHER COUNTRIES

	Electric Refrigeration News	Refrigerated Food News	Both News Papers
1 subscription	\$4.00	\$1.50	\$5.00
5 or more, each	3.75	1.45	4.75
10 or more, each	3.50	1.40	4.50
20 or more, each	3.25	1.35	4.25
50 or more, each	3.00	1.30	4.00

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In United States, \$2.00 a copy, postpaid.
In all other countries, \$2.50, postpaid.

BUSINESS NEWS PUBLISHING CO., 550 Macabees Bldg., Detroit, Mich. 1932

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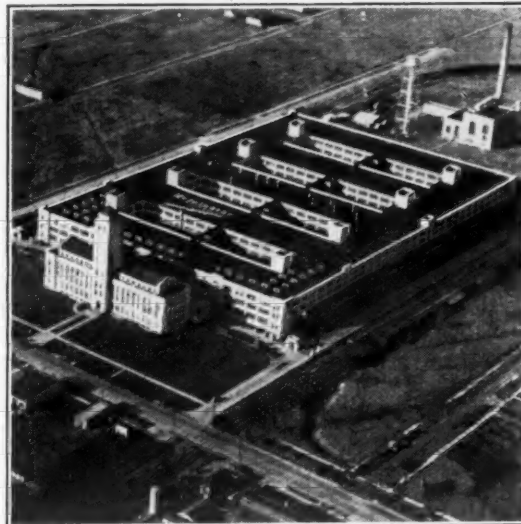
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City State

Activities of Kelvinator and Other Field Organizations



Linn & Scruggs' Kelvinator booth was adjudged the most attractive exhibit in the recent retail trade exposition at Decatur, Ill. At the right of the picture is M. S. Bandoli, Kelvinator district manager.

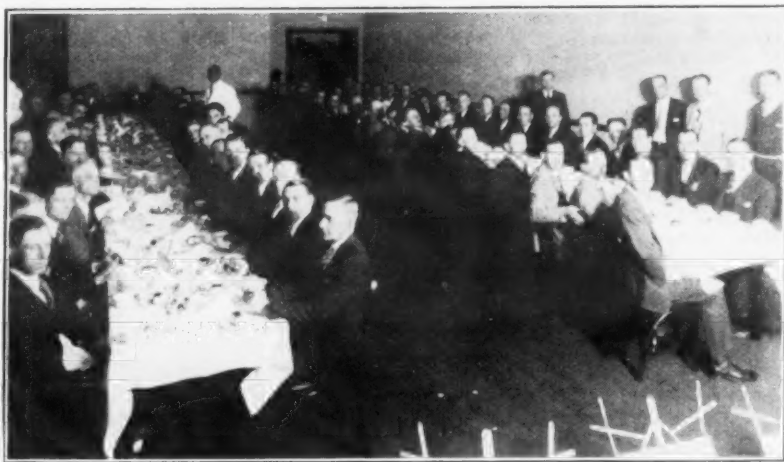


From Kelvinator's moving picture of plant operations comes this picture of the Detroit offices and manufacturing plant.



Gertrude Janssen, factory home economist (third from left), gives instruction to distributors' home service women in preparation for a recent cooking school in Albany, N. Y.

Dealers Hold Meeting



Regional Manager J. C. Burton and District Manager S. A. Kelsey were guests at a recent dealer meeting of the Williamsport Auto Parts Co.



Clyde McLean, Jr., is one of Kelvinator's youngest salesmen. He recently received a number of prospects for his father by taking "The Great White Giants" to school where the teacher read the book to his schoolmates.

Celebrate Quota Busting



An increase in April volume of 500 per cent over April, 1931, was celebrated by P. B. Whitsit Co., Kelvinator dealer at Columbus, with a dinner for salesmen.

'Wetmore Day' In Boston

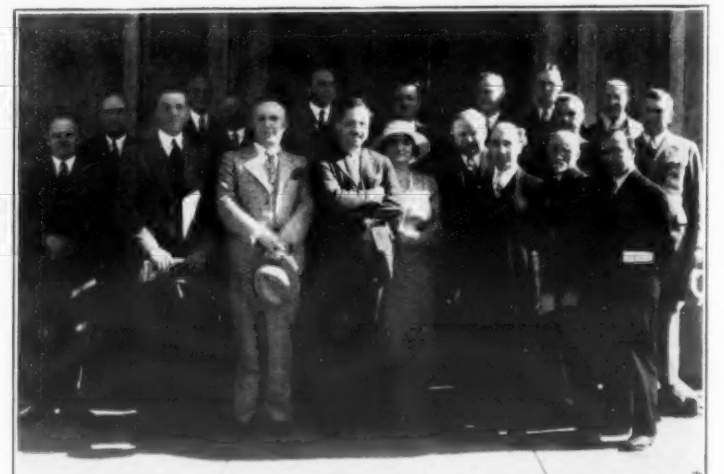


Bruce Wetmore, president of Wetmore-Scott, metropolitan distributor for Westinghouse in Boston, was honored at a Boston Braves baseball game recently.



Three Westinghouse girls rest on three new all-steel models before the units are shipped from the Mansfield, Ohio, plant.

French Party Visits Trupar



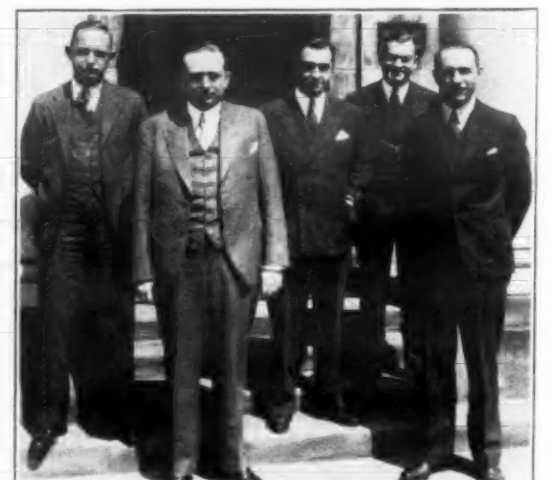
A group of French industrialists recently inspected the plant of the Trupar Mfg. Co., manufacturer of Mayflower electric refrigerators, at Dayton. They paused after the trip to be photographed.



"Salesman Sam" Vining, assistant Majestic refrigerator sales manager, addressed a dealer meeting at Dallas recently. Left to right: C. K. Cohn, vice president, Radio Equipment Co.; Vining; and W. L. Cohn, president of the distributorship.



Norge factory officials and distributors left Chicago during the R.M.A. show for a trip to the plant at Muskegon, Mich., and for a day of golf. One hundred and fifty men composed the party. Borg-Warner Corp officials also accompanied the party.



General Electric's advertising committee, left to right: D. C. Spooner, merchandising department; Lorin Smith, G. E. Kitchen Institute; W. A. Grove, Edison G. E. Appliance Co.; W. J. Daily, electric refrigeration; H. F. Barnes, incandescent department.

ELECTRIC REFRIGERATION NEWS

Registered U. S. Patent Office

The business newspaper of the refrigeration industry

VOL. 6, No. 39, SERIAL NO. 167

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DETROIT, MICHIGAN, JUNE 1, 1932

Entered as second-class matter
Aug. 1, 1927, at Detroit, Mich.

THREE DOLLARS PER YEAR

FLAT BELT DRIVE IS DESCRIBED TO NEW YORK A.S.R.E.

**Pulley Engineer Talks;
J. G. Van Arsdale
Presides**

NEW YORK CITY — Transmitting power between short drive pulleys with a flat belt was demonstrated to the members of the New York section of the American Society of Refrigerating Engineers at their May meeting by J. W. Skelly of the Rockwood Paper Pulley Stores, Inc., designer and manufacturer of the pivotal sliding track system of overcoming slipping in flat belt short drives.

Inasmuch as the meeting was the last, except for the annual outing, to be conducted by the present officers of the New York section, President Crosby Field and Secretary Eustace Soares presented the reports of their regime. New officers are now being voted on by mail.

The retiring officers stressed two innovations which they installed in the monthly meetings of the section. The first was the appointment of an honorary chairman for each meeting, the appointee being selected as an expert on the subject to be covered, competent to start discussion among the members after the conclusion of the regular speech.

The other innovation, according to Mr. Field, was the naming of one member of the council of the section to be responsible for each member, the responsibility rotating regularly among the councilmen.

The temporary chairman of the last meeting was Joseph G. Van Arsdale of (Concluded on Page 2, Column 1)

2 WATER COOLER MODELS SHOWN IN GIBSON ROOMS

CHICAGO—Publicly displayed for the first time last week was a Gibson bottle water cooler in the exhibit rooms of the Gibson Electric Refrigerator Corp. on Michigan Ave.

Two models have just been introduced to Gibson retail outlets, one a pressure cooler, the other a bottle type, according to Elmer Born, service manager.

Both have a capacity for cooling 2½ gallons of water per hour from 80° to 50° F. with the standard Gibson compressor which is located in the bottom of the self-contained water-cooling cabinet.

The pressure type is equipped with a bubbler and glass filler, while the bottle cooler has a standard spigot in a niche in the side of the cabinet. Both models are finished in lacquer.

Cooling is accomplished by direct expansion of sulphur dioxide through an American Radiator expansion valve into a coil of copper tubing which surrounds the water-cooling tank, Mr. Born explained.

Mr. Allen Takes a Hand



C. E. Allen, Westinghouse commercial vice president, checks the latch mounting of a new all-steel cabinet on the Mansfield production line.

CLAGO EXHIBITS NEW HERMETIC MACHINES

CHICAGO—Clago Mfg. Co. showed six models of its new hermetically-sealed electric refrigerator at the R.M.A. show here last week.

All are operated with the four-cylinder "Pul-sa-tur" compressor which is mounted in the top of the cabinet.

Technical details of the compressor unit were not available at the time of the show, but will probably be presented in an early issue of ELECTRIC REFRIGERATION NEWS.

The complete condensing unit is housed in a steel case with a finned tubing condenser in one end, through which a small fan draws air and forces it out across cast steel fins on the compressor at the other end of the unit.

The compressor employs four cylinders (Concluded on Page 2, Column 4)

CHICAGO INSTALLATION MEN USING HARD COPPER PIPE

CHICAGO—Hard copper pipe is being used extensively in place of copper tubing enclosed in conduit for multiple installations in Chicago by members of the Chicago Master Steam Fitters' Association, according to Deane E. Perham, director of refrigeration standards for the association.

Copper pipe is somewhat easier to install, and costs about the same as copper tubing with the conduit, Mr. Perham states.

It is accepted by city officials as safe installation practice, according to Gerald Gearon, supervising mechanical engineer and chief deputy inspector of the department for the inspection of steam boilers, unfired pressure vessels, and refrigeration plants in the city of Chicago.

Corporation's Appeal For 'Dry Ice' Name Denied By Court

WASHINGTON, D. C.—On May 23 the Supreme Court of the United States refused to review a lower court's decision that the term "Dry-Ice" is not subject to registration as a technical trade mark for solid carbon dioxide. The decision was announced by Chief Justice Hughes, denying the Dry Ice Corp. of America petitions on two suits alleging infringement of the registered mark.

The Circuit Court of Appeals for the Fifth Circuit, whose decision the Supreme Court refused to consider, ruled that the term "Dry-Ice" is descriptive of the characteristics or qualities of solid carbon dioxide and that, therefore, the registration of the mark in the Patent Office is invalid.

The Dry Ice Corp. brought the suits in question to restrain the use of the term "Dry-Ice" in the corporate titles of other companies, and to restrain the use of the term in advertising and selling solid carbon dioxide manufactured by the defendants.

The relief sought was denied by the Circuit Court of Appeals on the ground that the proof did not show that the defendants were guilty of any wrongful conduct having the effect of falsely representing the origin or source of their product, or attempting to palm it (Concluded on Page 2, Column 3)

CHICAGO FEDDERS AGENT CHANGES NAME

CHICAGO—The Auto Radiator Specialty Co. at 5101 W. Madison St. here has just changed its name to the Standard Refrigeration Parts Co. According to H. M. Goldberg, the firm distributes refrigeration products of the Fedders Mfg. Co., Buffalo.

Mohawk Co. Shows 2 Low-Priced Models

CHICAGO—A pair of low-priced "Chil-Wel" electric refrigerators were introduced to the radio and refrigeration trades by the All-American Mohawk Corp. in its display last week in the R.M.A. show.

Condensing units in the Chil-Wel models are built into the top of the cabinet, instead of below the food compartment as in the standard Mohawk line.

Model 400, priced at \$99.50, has a capacity of 4 cu. ft., with 6 sq. ft. of shelf area. Its exterior dimensions are 48 in. high, 22½ in. wide, and 18½ in. deep. It has two ice cube trays, producing 36 ice cubes in one freezing. Cabinet legs are 8 in. high.

Model 550, priced at \$129.50, has 5½ cu. ft. of storage capacity, and 7.7 sq. ft. of shelf area. Ice cube capacity is the same as model 400. Exterior dimensions are 54½ in. high, 26 in. wide, and 18½ in. deep. The legs on this model are 11 in. high.

Both refrigerators are insulated with Temlok, and both have porcelain liners, and lacquer exterior finishes. Cabinet metal is furniture steel, while cabinet liners are of Armco iron. Hardware is chromium-plated. Temperatures are regulated by an 8-point control.

U. S. RADIO DISPLAYS 5 HERMETIC MODELS

CHICAGO—Five models of the U. S. hermetic refrigerator were introduced to the R.M.A. show in the Stevens Hotel, here, last week by the United States Radio & Television Corp., Marion, Ind. All are covered by a three-year guarantee. Units are to be serviced on a replacement basis.

Identified with the development of refrigeration in the firm are T. C. Whitehead and Harold Greenwald, formerly with Whitehead & Kales Co., Detroit.

Mounted in the top of the cabinet, the compressor is a single-cylinder direct-driven machine, enclosed with the motor, in a steel cylinder about 7 in. in diameter. The complete refrigerating system weighs between 70 and 80 lbs., according to attendants in the booth. Standard equipment includes Ranco (Concluded on Page 3, Column 5)

ENGINEERS TO MEET JUNE 9 ON M.I.T. CAMPUS

NEW YORK CITY—Plans are practically complete for the annual spring meeting of the American Society of Refrigerating Engineers which opens for a three-day period beginning Thursday, June 9, on the Boston campus of the Massachusetts Institute of Technology.

As announced in the last issue of the Engineering Section, the first day will be devoted to various applications of the steam ejector to refrigeration. Insulation and climatic conditions will be discussed the second day, Friday, June 10; while the last day's sessions will hear talks on rotary compressors, lubrication, and the control of solid carbon dioxide.

REFRIGERATION USED IN HOLLAND AIR CONDITIONER

**Furnace Manufacturer
Designs Central
Home Plant**

HOLLAND, Mich.—A central air conditioning system for the home, using electric refrigeration in communities where city water temperatures exceed 60° F., was recently announced by the Holland Furnace Co. here.

Designers of the system explain that it includes three major parts, namely: a heating unit, an air-circulating unit (termed the conditioner), and a refrigerating unit. The system is built to perform the following six functions: winter heating, winter humidification, air motion, air cleaning, summer cooling and summer dehumidification.

The air conditioning unit, which occupies about 8 sq. ft. of floor space, is a metal cabinet superimposed by a semi-cylindrical copper mesh filter. Immediately under this filter is an air-blower consisting of two squirrel cage type fans driven by a ¼-hp. motor. The fans have capacity for moving from 1,500 to 2,500 cu. ft. of air per minute.

The blower keeps the air of the home in circulation, first drawing it through the filter which removes the coarser dust particles and then forcing it through a series of fine, swirling, water sprays in the washing chamber of the conditioning unit. Thence, the air passes through an eliminator or scrubber which separates the water from the air, the washing water and impurities (Concluded on Page 2, Column 5)

'SURECOLD' REFRIGERATORS DEMONSTRATED IN CHICAGO

CHICAGO—Displayed in the Congress Hotel during the R.M.A. show here last week was the "SureCold" line of refrigerators built by the Warner Steel Products Co., Ottawa, Kan.

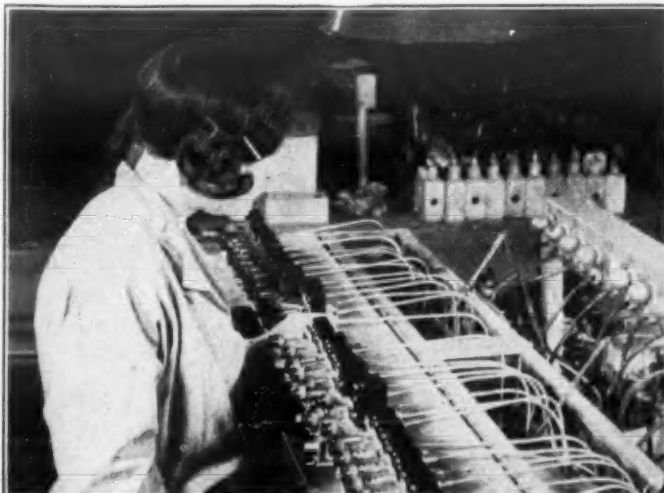
Prices range from \$99.50 f. o. b. factory for a 4½ cu. ft. model, to \$169.50 for the 8 cu. ft. size, gross capacity ratings.

The smallest model (4½ cu. ft. gross) has 6½ sq. ft. of shelf area, and two ice cube trays making 42 cubes. The \$119.50 SureCold has 5½ cu. ft. of gross capacity, 7½ sq. ft. of shelf area, and produces 63 ice cubes in three trays.

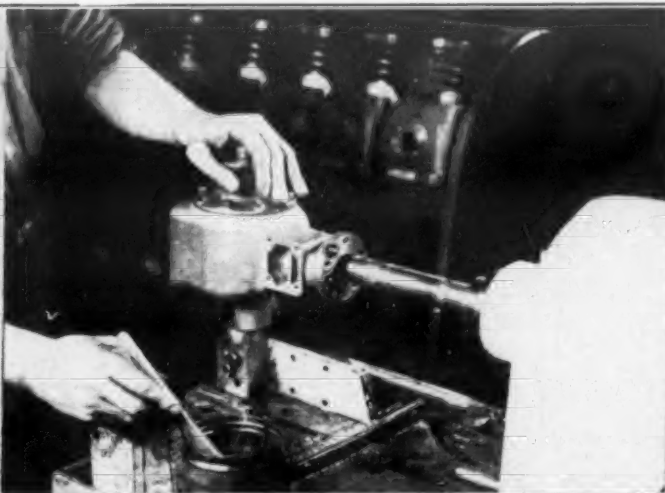
The next model lists at \$149.50 f. o. b. factory, and has 6½ cu. ft. of capacity, 9 sq. ft. of shelf area, and freezes 84 ice cubes in four trays. The largest model in the line has 8 gross cu. ft. of capacity, 12 sq. ft. of shelf area, and five ice cube trays producing 105 cubes.

Mounted in the top of the cabinet, the compressor unit is a twin-cylinder opposed type, using 1½ lbs. of sulphur dioxide. One end of the motor shaft drives the compressor by direct connection, the other end propels the fan which (Concluded on Page 3, Column 5)

How Controls Are Set and Compressor Bores Finished at Kelvinator



Young woman in Kelvinator's Detroit plant setting Rancostat controls before their installation in Kelvinators or Leonards.



Close-up of the burnishing operation applied to the bores of Kelvinator compressors to give them a polished surface.



A Kelvinator inspector uses a step-gauge to see that the compressor bore doesn't vary more than its limit of .0004 in.

Short Flat Belt Drives Described for New York Refrigerating Engineers

(Concluded from Page 1, Column 1)
the Schwarz Belting Co., who introduced Mr. Skelly by testifying to the speaker's work on several installation jobs with which Mr. Van Arsdale was connected. Mr. Skelly then placed on the speaker's table a small model of a flat belt transmission outfit. He sketched the history of short drive transmission by saying that the use of leather belts was one of the earliest and best means of transmitting power, but that its use over short distances had been curtailed in the last 20 or 30 years because engineers felt that waste due to slipping in such installations could not be overcome.

6,000 Installations in Use

Mr. Skelly said that the Rockwood drive was invented and perfected in 1925 and 1926, and that over 6,000 installations of it had been made since then.

In the old style of belt transmission, the speaker said, the belt was stretched over the pulleys while the motor was stopped. As soon as the power was turned on the belt would stretch, and centrifugal force would tend to throw it away from the wheel, allowing the driven pulley to slip.

In long drives this is overcome by the weight of the belt, which drags down and counteracts the centrifugal energy. However, this would not work in short drives unless a very heavy belt were used, and this would be too great a waste of energy.

To demonstrate slippage in a short drive flat belt pulley unit, Mr. Skelly started up his model. Behind the driven wheel he had an electric light installed, and, as the motor gathered speed, light could be seen between the belt and the driven pulley.

Belt Tightened by Motor's Weight

The speaker then turned from the model, and outlined the principle of the Rockwood drive. This, he said, is to take up the stretch in the belt by using the weight of the motor to hold the belt tight.

This is accomplished, Mr. Skelly demonstrated with the model, by mounting the motor on a free-swinging pivot, so that as the belt stretches, the motor drops slightly off the horizontal, taking up the slack.

Since the motor is balanced on the base, the shortening of the belt as the motor is turned off brings the weight up again, and sends it down on the

base, so that the belt does not support the motor when not in action, and there is no force tending towards a permanent belt stretch.

To adjust this balance, sliding rails are used in the pivot base. These allow adjustments in the distance between the driver and the driven wheel to be made without dismantling the motor, so that allowances can be made for expansion of the belt, or other changes.

The Rockwood drive can be used on any motor from 1/2- to 400-hp., Mr. Skelly said.

Wide Field in Refrigeration

The widest use of Rockwood drives, Mr. Skelly said, was on refrigerator compressors and air compressors. He claimed that the flat belt system is well-suited for carrying pulsating loads.

At the conclusion of the talk, several questions were put to Mr. Skelly. Mr. Field reminded the speaker of his statement that the Rockwood drive was adapted to the transmission of pulsating loads. He asked Mr. Skelly what means were used to control these loads, and the speaker answered that he advocated the use of air dash pots.

Pulleys Can Be Close

Asked about the distances between the pulleys that is necessary to make the Rockwood drive work, Mr. Skelly said that there had been installations where the wheels almost touched. However, he said that in cases where there is a high ratio between the diameter of the driver and that of the driven wheel, the distance between the inner edges of the pulleys should be equal to the diameter of the larger pulley.

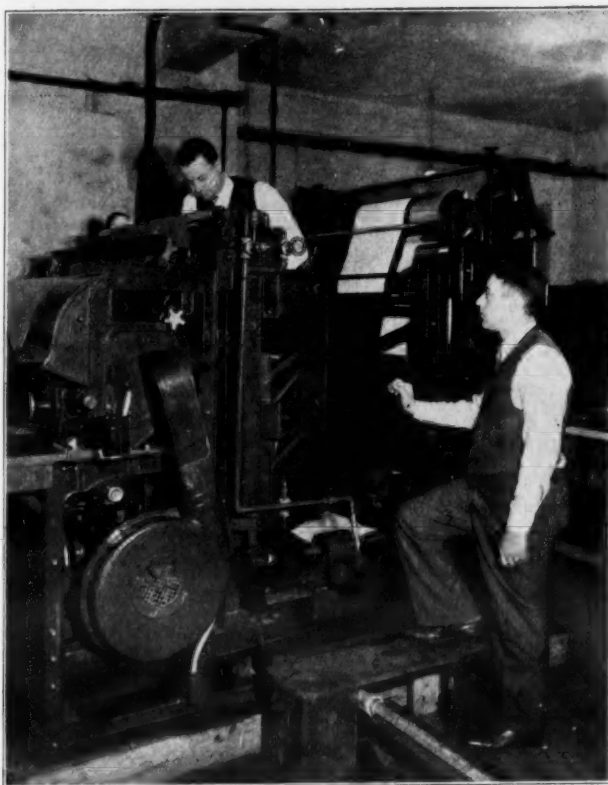
The maximum tension that should be put on a belt, Mr. Skelly said, is 300 lbs. per square belt section. Mr. Thurston objected to this, saying that a belt under 200 lbs. pressure will last 20 years, and one under 300 lbs. will last only six years.

Pulley Ratios

In conclusion, Mr. Skelly offered a few optimum figures for flat belt drives. He said that the highest ratio between the pulley diameters should be 8 to 1, but that in very small wheels a ratio of 10 to 1 is sometimes possible.

The best arc of contact is 133 degrees, he said, and the lowest that will work is 111 degrees. Highest belt speed possible without damage to the belt is 6,500 ft. per minute, but operation over 5,000 ft. per minute is decreasingly efficient.

Continuous Blue-Printing



Using the new "Kyano" process on a blue-printing machine.

DRY ICE CORP. REFUSED RIGHT TO SUE ON NAME

(Concluded from Page 1, Column 3)
off on the purchasing public as the product of the Dry Ice Corp. and its licensees.

In urging consideration of the cases by the Supreme Court, the petitioners' brief stated that they present a situation "where the lower courts have held descriptive two words in paradox which at the time when conceived were not descriptive of the goods, consequently could not be descriptive of the characteristic of the goods and were in no sense a measure of quality."

The term, it was claimed, is merely suggestive of the use to which solid carbon dioxide can be applied. "The term 'Dry Ice' does not state or describe the fact that solid carbon dioxide is or may be used as a refrigerant. 'Dry Ice' does, however, suggest the function of the article in question."

In opposing review, the respondents contended that the term "is not only descriptive of the characteristics of solid carbon dioxide, but is a most appropriate name for the product itself."

C. K. DAVIS, E. RYKENBOER TO HEAD PACIFIC R. & H. CO.

EL MONTE, Calif.—C. K. Davis was elected chairman of the board and Dr. E. A. Rykenboer, president of the Pacific R. & H. Chemical Corp., at a meeting of the board of directors here recently. The corporation is a subsidiary of The Roessler & Hasselacher Chemical Co., Inc., New York.

Other officers chosen were: F. S. Pratt, vice president; A. Frankel, treasurer; H. A. Schumacher, assistant treasurer; L. Rice, secretary; and J. L. Fahs, assistant secretary.

The Pacific R. & H. manufactures reclaimed rubber, and is manufacturer and distributor on the Pacific Coast of Liquid HCN and cyanides for fumigation purposes.

GRAIN COMPANY PRESIDENT INSTALLS AIR CONDITIONING

CHICAGO—The president's office of the Uhlman Grain Co., Board of Trade Bldg., Chicago, was equipped last week with Frigidaire air conditioning equipment by the Stover Co., Chicago distributor.

The sale was made by C. DeCamp, salesman in Stover's air conditioning division.

The office in which the units were installed has a fireplace, adjoining shower and lounge. The compressor was installed remotely in the grain company's typographic room.

WESTINGHOUSE CUT-AWAY GIVEN TO SCHOOL

PITTSBURGH—A cut-away of a Westinghouse refrigerating unit has been provided the class in refrigeration at the University of Pittsburgh by Westinghouse Electric & Mfg. Co., according to F. H. Stening, assistant professor of mechanical engineering.

The refrigeration laboratory is now almost complete as far as the various makes of refrigerators are concerned, according to Prof. Stening.

Speeds Production Of Blue-Prints

CHICAGO—Engineers of the C. F. Pease Co. here have developed a new developing process for the continuous blue-printing machine supplied by that company.

According to claims of the manufacturer, the new process produces a bluer color, better distinction of lines, and permits faster machine operation.

CLAGO ENTERS FIELD WITH 6 ELECTRIC REFRIGERATORS

(Concluded from Page 1, Column 2)
ders with 1-in. bore, and 3/4-in. stroke which operate centrifugally from the center of a revolving cylinder head. The suction line enters the bottom of the compressor, and feeds the cylinders through sliding ports. The compressed gas is discharged into the dome of the machine, and leads to the condenser.

A 1/6-hp. motor drives the compressor mechanism. Sulphur dioxide is the refrigerant used.

The smallest refrigerator in the line is model F, with 3 1/2 cu. ft. of net storage capacity. It lists at \$79.50 f. o. b. Chicago factories.

Model E is rated at 4 cu. ft. net, and lists at \$94.50 f. o. b. It produces 56 ice cubes in two trays, and stands 50 in. high, 24 1/2 in. wide, and 21 1/2 in. deep.

Model D-2 has 5 net cu. ft., and stands 56 in. high, 27 1/2 in. wide, and 20 1/2 in. deep. Model D-4 is the same as D-2, but has four ice cube trays instead of two, and makes 112 ice cubes. D-2 lists at \$119.50, while D-4 lists at \$129.50 f. o. b.

Model C is a double-door type, with 5 1/2 cu. ft. of net storage space. It has four trays, making 112 ice cubes. Dimensions are 54 in. high, 29 in. wide, and 21 in. deep. Its price is \$149.50.

A net capacity of 6 cu. ft. is offered by single-door model B. It stands 58 in. high, 29 in. wide, and 21 in. deep, and lists at \$149.50.

Double-door model A has 8 cu. ft. net capacity. Its exterior dimensions are: 58 in. high, 38 in. wide, and 20 in. deep.

Exteriors are of synthetic porcelain, cabinet liners are of porcelain. Rubber door gaskets, flat ribbon type shelves, chromium-plated brass hardware, and a nine-point temperature control are standard.

A guarantee of 18 months covers the refrigerating machine, while a one-year guarantee applies to the cabinet.

CENTRAL CONDITIONER OF HOLLAND FURNACE USES REFRIGERATION

(Concluded from Page 1, Column 5)
washed from the air draining into the sewer.

The unit may be attached to practically any type of warm air heating system, Holland engineers state. Where homes are heated with vapor, steam, or hot water, the conditioner is installed independent of the heater, delivery of the conditioned air being made direct to the rooms by means of a special duct installation with grilles under radiators.

The washing process is the primary means for summer cooling. According to the Holland officials, in many localities the city water is sufficiently low in temperature to give a satisfactory cooling effect.

However, where the water temperature is much above 60° F., the Holland company furnishes a Universal Cooler refrigerating unit especially designed for domestic use.

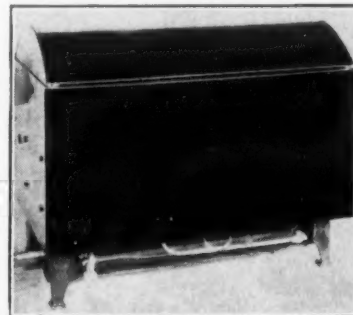
The unit is thermostatically controlled to maintain a water temperature of 40° F. This plant is a complete self-contained cold water generator operated by a 1 1/2-hp. single-phase repulsion-induction motor.

The condenser is of the double-tube type with 3/4-in. external, and 1/2-in. internal continuous copper tubing. The receiver is of double-end spun, seamless, steel tube, 30 in. long, 5 in. in diameter, charged with 6 lbs. of methyl chloride.

The unit base assembly is equipped with two plates, one for the compressor motor and one for the circulating pump assembly. Either the motor or the pump can be independent of each other, enabling the tightening of either of the belts. The circulating pump has a normal speed of 510 r.p.m. with normal displacement of 3 1/2 gals. per minute.

In addition to the fundamental functions of heating, circulating, and cooling

Air Conditioner

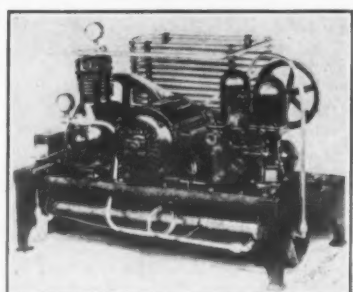


Jacketed air conditioning unit for installation in the basement.

ing, the Holland system also has provision for humidifying the home air during the winter season, dehumidifying the air during the summer season, and for air cleaning.

Holland engineers claim that, accord-

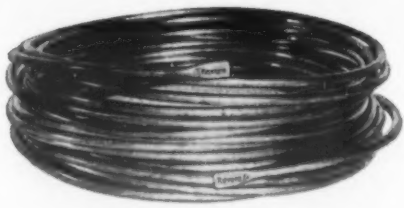
Refrigeration



The refrigerating system is thermostatically controlled to keep cooling water temperatures of 40° F.

ing to laboratory tests, the air filtering and washing process removes 99.2 per cent of the dust and other impurities from the air.

Revere Seamless Copper Refrigeration Tubing



A soft, 99.9% pure copper tubing, manufactured exclusively to meet the rigid requirements of the Refrigeration Industry.

ANNEALED ELECTRICALLY to prevent splitting during flanging operations. DEHYDRATED by a special drying system with absolute control over the entire length of the tubing. SEALED against moisture. DEOXIDIZED and positively free from flaws.

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SHEET COPPER... available in every commercial variety. BRASS ROD... specially suited for high speed screw machine production. REVERE BRASS FORGINGS... twice wrought... having high tensile strength, tightness to gas and low cost for the finished parts.

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ANSUL CHEMICAL COMPANY MARINETTE - WISCONSIN



Radio Engineers Present Report On Television Progress

CHICAGO—Emphasizing the fact that many engineering problems must be overcome before television can be a satisfactory means of home entertainment, the Radio Manufacturers Association last week issued its annual statement to the public regarding the progress of experiments in development of television.

A similar statement was made about a year ago, and the new statement was prepared by the Association's engineering division, which includes leading engineers in the field of television broadcasting and receiving apparatus.

The statement follows:

"From such a confused mass of conflicting statements and data regarding television, only by picking out the pertinent facts from the work that has been done in the past and the facts that are presented in the present situation is it possible to draw any conclusions regarding the future of television. These facts have been so many times oversold, at times maligned and altogether misunderstood, not only by the public, but by the leaders of the radio industry itself, which must sponsor this new art.

"This statement regarding television is only intended to array the facts of the past and present to point out some of the future possibilities thus made apparent.

Experiments Date Back to 1884

"As far back as 1884 there was recognized by Nipkow, a German experimenter, that to transmit visual images it would be necessary to resolve those images into elements, each element to be faithfully transmitted and reconverted into a corresponding light value at the receiving end. To do this Nipkow employed scanning discs, and later in 1894 Amstutz, an Illinois experimenter, carried on the work in this country even further.

"In 1913 Jenkins, of Washington, started his work on the development of television which culminated in 1925 in the showing of animated motion pictures by television. In England, John Baird, after several years of work, showed his first pictures in 1926.

Prominent Television Laboratories

"In 1928 the Bell Telephone Laboratories transmitted a picture from Washington to New York, and since that time several other experimenters have been carrying forward the development of television. Prominent among these have been the RCA-Victor Co. in Camden, the Jenkins Television Corp., of Passaic, Philo Farnsworth now with the Philadelphia Storage Battery Co., General Electric Laboratories in Schenectady, and U. A. Sanabria, of Chicago.

"The problems encountered in accomplishing television transmission and reception have in the past been manifold. "First—the problem in the method of scanning which started with the ordinary disc, was followed later by a disc with lenses which greatly increased the efficiency. Then came the drums and discs with mirrors. Starting with a Russian named Rosing, 20 years ago, several experimenters have been using electrical principles of scanning which are utilized in the cathode ray oscillograph tube.

Transmission Difficult

"Second—the problem of transmission has proven to be very difficult. The light values of the elements of the transmitted picture must be converted to electrical values and then transmitted faithfully either by wire or by radio. This is only successfully accomplished by employing a frequency side band of several hundred thousand cycles. This becomes of interest when compared with the width of a side band for present-day radio voice transmission which is approximately 5,000 cycles. Modulation of the high carrier frequencies for these picture transmissions becomes very difficult.

"Third—the reception of television signals has presented still more complicated problems. The radio television signals must be received, amplified, demodulated and again amplified to oper-

ate a light source. Demodulation above 30,000 cycles has presented many engineering difficulties. Much work has been done on the light sources, the most common of which have been neon discharge glow lamp, the Kerr cell and the cathode ray tube.

"Fourth—the great problem has been that of securing finances. Unfortunately, companies have resorted to overstatements, lured prospects with the possibilities of television in order to sell stock, and often in these statements misrepresentations were made with the result that the public has been very much confused as to the actual state and present possibilities of the television art.

Subcommittee Organized

"It was early recognized that in this maze of television work some official organization, representing most of the television experimenters, should endeavor to crystallize as much as possible the growing embryonic art. Consequently, in 1928 a subcommittee of the Engineering division of the R.M.A., known as the committee on television, under the direction of D. E. Replogle as chairman, was appointed. This committee not only embraces members of the R.M.A., but invites as guest members every outstanding experimenter. It has helped in encouraging experimenters along every line of development and in securing Federal aid in the wave length assignment of television, and has been the only official, recommended party in this country whose function has been to guide, if possible, this growing art. Due to the work of this committee much confusion in regard to practices, terms and definitions of television has been eliminated.

Known Facts Listed

"The present facts of television which are available are as follows:

"First—for scanning, mechanical features using rotating parts are in wide use and offer a most practical means of securing passable television pictures.

"Second—a direct pick-up system which has come to the front rapidly this year is that of the camera idea. This system can be used for television pick-up in a lighted studio, for outdoor pick-up, etc.

"Third—a great deal of successful development has been made with the cathode ray tube system for transmission and reception. This system has proven technically sound and shows the greatest possibility.

"Its chief difficulties are in the production of large quantities of these systems at a reasonable cost.

"Fourth—the television broadcast transmission spectrum allows only for five channels, namely: 2,000-2,100 K. C., 2,100-2,200 K. C., 2,200-2,300 K. C., 2,750-2,850 K. C., and 2,850-2,950 K. C. This frequency spectrum for television is not adequate for good picture transmission on account of the very wide side band frequency necessary for picture detail, so, in addition to these bands, on the extreme short waves—5-7 meters—frequencies from 35,000-80,000 K. C. have been requested for television service. Most of the present transmitters are operating in the first-mentioned bands, but a few operate in the neighborhood of 46,000 to 48,000 K. C.

Cathode Ray Scanning

"Fifth—the reception of television has been made possible by tuning with either a superheterodyne or tuned radio frequency receiver designed for television reception. Synchronized sound very often accompanies the picture transmission and it is common practice to receive the voice transmission on the standard broadcast receiver. This requires two receivers for receiving synchronized sound and picture transmission. In the television receivers, mechanical scanning and cathode ray electrical scanning have been employed. The cathode ray tube of scanning has been capable of excellent results and shows great possibilities for further development.

"Sixth—with the present economics of broadcasting, it has been impossible to secure much data on the entertaining value of the subjects that can be broadcast due to the cost in presenting programs. The Federal Radio Commission has, up to the present time, considered television only experimental and will grant no commercial rights. This means that all broadcasting must be done for the experimental value only and no paid programs can be transmitted by television. This ruling has made impossible the receipt of any money in staging television programs. With commercial rights granted by the Federal government, the problem will still be complicated as to whether advertisers will continue to assume the increased costs that television must impose for its successful operation, or whether the public can satisfactorily be taxed to bear this burden.

"Many problems appear which must be overcome before television can be a satisfactory means of home entertainment. The most important of these are listed as follows:

"1. Greater detail should be obtained in received picture.

"2. Television transmission pick-up equipment should be portable and as easily used as present-day sound picture pick-up equipment.

"3. Transmitting systems must be evolved which will have a satisfactory and reliable service range.

"4. Receivers as simple in operation as our present radio receivers must be designed and built at a reasonable cost.

"5. Quiet and satisfactorily illuminated picture equipment for the home must be designed and built at a reasonable cost.

"Regardless of the present problems that confront the industry, there has been enough work done to justify some predictions which can be conscientiously made. With the development of the new short-wave channels at frequencies higher than 35,000,000 cycles, reliable transmission of television can be predicted. Ample room for an adequate number of transmitting stations can be visualized in this short-wave region. It is perfectly conceivable that a sight and sound service can be worked out to be received on a single receiver with a simplified tuning and control mechanism."

TINY CHICAGO BAKERY GETS AIR CONDITIONING

CHICAGO—A single Frigidaire air-conditioning unit has been installed in one of Chicago's smallest bakeries, Schwefer's, at 2752½ N. Clark St. The bakery is so small, F. L. Orcutt, manager, air conditioning division, Stover Co., and Salesman I. H. Purinton, who sold the equipment, report, that they had to transact their business with the owner in the hallway of an adjoining building.

One of Frigidaire's suspension model conditioners was installed in the store and the compressor placed in a sound-proof housing over a small washroom.

Carbonic Ice Plant Just Finished In Indianapolis

CHICAGO—Liquid Carbonic Corp. has just announced the completion of its 18th plant for the manufacture of solid carbon dioxide, marketed by the company under the name of "Carbonic Ice."

The new plant, located at Indianapolis, gives the Liquid Carbonic Corp. a total daily capacity of more than 225 tons of solid carbon dioxide.

"Carbonic Ice" plants are now being operated in New York City; Boston; Albany, N. Y.; Philadelphia; Pittsburgh; Cleveland; Cincinnati; Chicago; Minneapolis; St. Louis; Atlanta; Jacksonville, Fla.; New Orleans; Dallas, Tex.; Denver; Los Angeles; Seattle; Indianapolis.

The Liquid Carbonic Corp. has been manufacturing and selling solid carbon dioxide under its own name since the fall of 1931. Previous to that time, the Liquid Carbonic Corp. operated in conjunction with the Dry Ice Corp. of America.

In addition to its plant, the Liquid Carbonic Corp. maintains "Carbonic Ice" stocks at many other points, restocking them daily with shipments from the nearest plants.

Liquid Carbonic Corp.'s "Carbonic Ice" plants are located in and operated as a part of its already established carbonic gas plants. The solid carbon dioxide is made from "Beverage Quality" gas made by the Liquid Carbonic Corp. gas process, which is a "coke" process said to give as high as 99½ per cent purity to the refrigerant.

A special research laboratory and separate engineering personnel is maintained at the Chicago plant for the development of methods and economies in shipping and packaging as well as for the design of equipment for use with "Carbonic Ice."

U. S. RADIO DISPLAYS 5 HERMETIC MODELS

(Concluded from Page 1, Column 4)

controls, Mullins evaporators, Balsam Wool insulation, and a high-side float. The machine starts by an electrical clutch. Cabinets displayed at the show were of Rex manufacture. Hardware is chromium-plated brass. Porcelain shelf-hooks are features of the cabinet interior.

Model DL is a 4-cu. ft. net refrigerator with 7½ sq. ft. of shelf area, making 56 ice cubes, and priced at \$99.95 f. o. b. factory.

Models CL and CP have 4½ cu. ft. of net food storage space each, 9½ sq. ft. of shelf area, an interior electric light, and tray capacity of 84 ice cubes. Model CL has a white Pyroxylin lacquer exterior, and is priced at \$129.95 f. o. b. factory. CP is finished with a porcelain exterior, and sells at \$144.95 f. o. b.

A pair of 5½-cu. ft. models completes the new line. Type AL, finished in lacquer, lists at \$144.95 f. o. b., while AP with a porcelain exterior lists at \$169.95 f. o. b.

The last two models offer 10½ sq. ft. of shelf area, produce 112 ice cubes, and have interior electric lights.

The 4-ft. refrigerator has 2½ in. of Balsam Wool in sides and top, with 3 in. in the door. Other models have 3½ in. of door insulation, and 3 in. elsewhere.

SURECOLD REFRIGERATORS AT CHICAGO SHOW

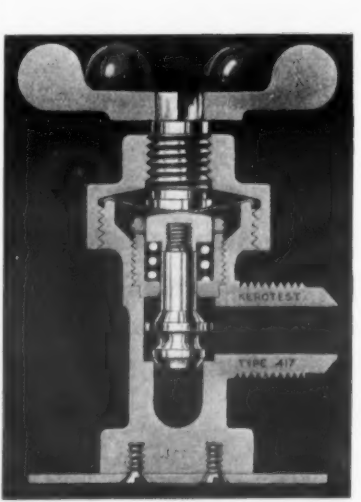
(Concluded from Page 1, Column 5)

draws cooling air through the condenser and forces it across the motor and compressor fins.

Cabinets are of all-steel construction, with broom-high legs, and lacquer exterior finishes. Liners are of porcelain.

3

FEATURES IN THE MAKING OF 1 outstanding VALVE



1 DESIGN

The Kerotest Type 417 3-way Diaphragm Packless Manifold Valve is designed with backseating bushing which makes possible replacement of diaphragms without removing the valves from service and without loss of refrigerant. . . . designed for use where an unrestricted flow is required.

2 PRECISION

All Kerotest Valve parts are made with micrometric accuracy assuring a complete valve that remains gas tight and liquid tight under all service pressures. . . . assembled without soldered joints. . . . multiple diaphragms are impervious to all present day refrigerants.

3 TESTS

This unusual valve meets the Underwriters' Laboratories pressure test of 11250 pounds in full open, half open and closed positions as well as a durability test of 50,000 cycles open and closed. Every valve is pressure-tested in gasoline before being shipped.

Kerotest Diaphragm Packless Valves are fully patented—the only refrigerant valve incorporating the "PRESSURE TESTED" METAL TO METAL BACK SEAT when the stem is in the full open position and the REPLACEABLE MULTIPLE DIAPHRAGM which perfectly seals the stem from high pressure leakage. These Kerotest Valves ideally meet the requirements of the engineer who must make the three year guarantee profitable from the manufacturer's standpoint. Write for the Kerotest catalogue.

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GIVES G-E PRODUCTION PLANNING METHODS

By A. M. Sweeney, Manager,
Production and Distribution Division,
Refrigeration Department,
General Electric Co.

The General Electric refrigeration department is organized as a decentralized department of the General Electric Co. with headquarters in Cleveland. Our manufacturing plants for refrigerators are located at various General Electric works, namely, Schenectady, N. Y., Erie, Pa., Ft. Wayne, Ind.

Smaller household units are made at Schenectady; larger sizes of household and commercial units at our Ft. Wayne works; all motors are also made at Ft. Wayne; all controls at Schenectady; all cabinets except large commercial sizes are made at the Erie works. We buy our large commercial cabinets from outside manufacturers who build them for us on our own specifications.

All production is planned and controlled from the production and distribution division of the Cleveland office.

Make Practically Every Part

Our production problems are perhaps somewhat more involved, or more simple, according to one's viewpoint, than those of other refrigerator manufacturers, as we make practically every item which goes into our units and cabinets. These parts include motors, controls, evaporators, condensers, freezing trays, leg gliders, connecting cords, heater tubes, complete cabinets, including door gaskets and textolite strips, also all castings, drop forgings, bushings, in fact, every part of our unit and cabinets with the exception of cabinet hardware, nameplates, and glass chill trays.

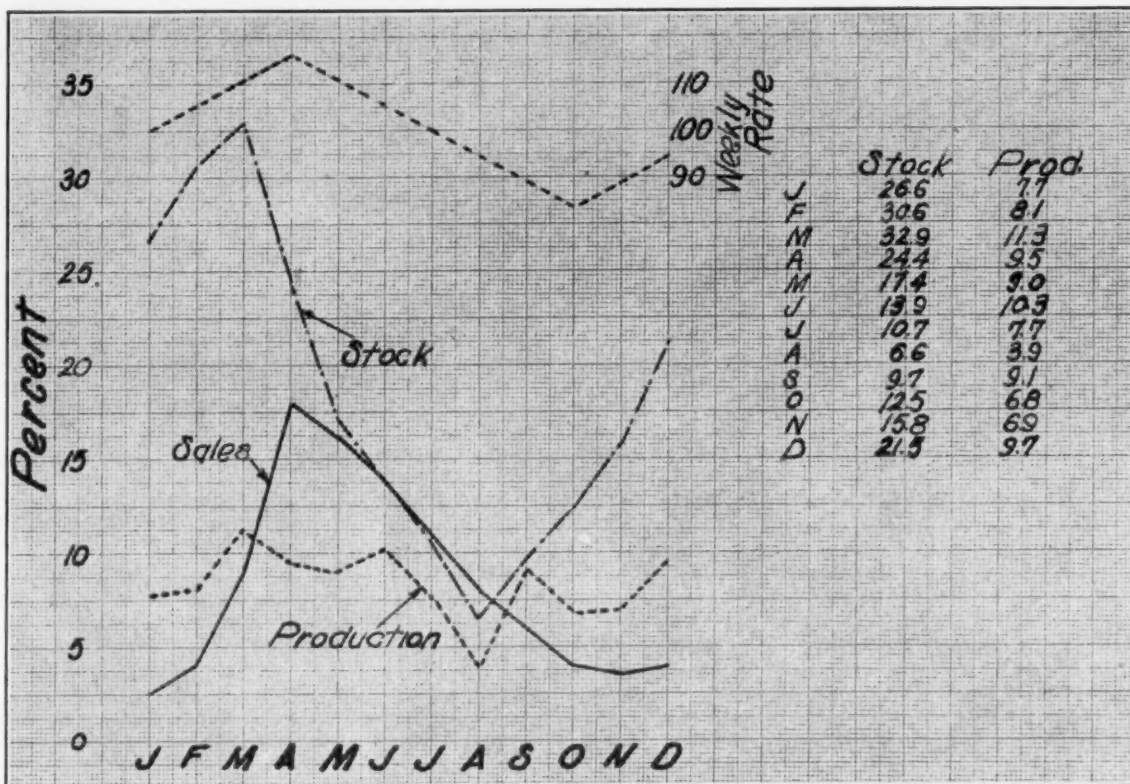
A record of past sales or an estimate of expected sales is, of course, the basis of all production planning. Every production man knows from bitter experience that sales department estimates, made in advance, are not very reliable for production planning.

Sales Department Perspective

Personally, I would much prefer to take actual past sales performance records, where available, plus a good broad view of market opportunities as a basis for production, than to take any sales quota figures by the sales department, even though they may be based on quotas which have been accepted by distributors and dealers. In my opinion sales departments are too close to the firing line to get the proper perspective of sales trends from which production should be planned.

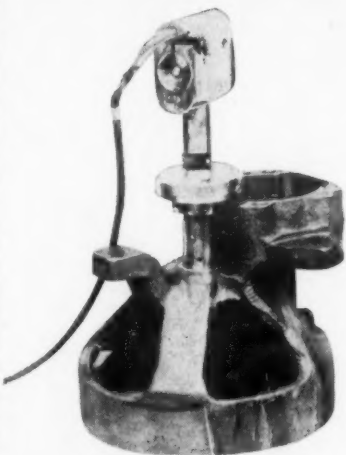
When orders are coming in somewhat in excess of production, and stocks are being depleted, the sales department makes panicky demands on the manufacturing department to bring up production. With the necessary, and inevitable, time lag between production requirements on paper, and goods actually rolling to warehouses and distributors, the manufacturing department usually finds itself going at top speed of production, long after the sales peak has been passed; and as orders drop off the sales department usually wants the

Leveling the Production Curve



Production of G. E. refrigerators varies no more than 15% from the average weekly rate for the year.

Internal Measuring



An "Electrolimit" gauge head and spindle arranged for hand operation. It is being used to check a G. E. refrigerator's motor frame.

factory to close down entirely, with little appreciation of the position in which the production department finds itself due to necessary commitments made several weeks in advance with contributing departments and vendors.

The electric refrigeration business is relatively new and I doubt whether

many manufacturing departments in the industry have as yet accumulated sufficient experience to be able to forecast accurately production requirements. This is especially true due to the effect of new lines, or new items in an old line, on the demand for certain other items.

Continuous Factory Operation

The General Electric refrigeration department has a basic policy of continuous factory operation. We are definitely following the policy of producing on the smoothest possible production curve throughout the year, and stocking for future sales during the off-peak months.

We have been reasonably successful up to the present time, and believe this policy of stabilization of employment is entirely practical from a cost and efficiency standpoint.

We also believe that stabilization of production results in a higher average quality, hence all of our plans are based on the policy of smoothing out our manufacturing curve to the greatest extent possible.

To do this, form DD-25 is maintained for every type of unit and cabinet which we manufacture. Records on this form are posted monthly from actual sales to distributors. Inasmuch as we maintain warehouse stocks of all fast-moving types in all cities where we have distributors (some 60-odd), withdrawals on warehouses by our distributors are practically equivalent to actual sales to customers, although we can check such withdrawals each month against inventories of distributors, central stations and dealers to make reasonably sure that large distributors' and dealers' stocks are not distorting our sales data.

Uses of Sales Records

We now have four or five years' sales records on some of our standard types and are able to project these records with some degree of accuracy. When starting a new item, we assume a certain total annual sales figure from quotas accepted by our distributors, and divide this total among the 12 months of the year according to a table of percentage sales figures.

From a chart showing our sales factors as simple percentages of the total for the year, we adjust the percentage table from year to year as conditions warrant, although it has not been necessary to vary these figures very materially because during the few years we have been in full production and in a position to meet sales demands from warehouse stocks, so the monthly percentage figures have been very consistent from one year to the next.

Minimum, Maximum Stocks

Minimum and maximum stocks in our warehouses are adjusted seasonably so that proper turnover may be secured and stocks held to a minimum as we approach the off-peak sales months. The application of this sales demand data to our production problem, is shown in Fig. 1 in the adjoining column.

To get a proper perspective of this chart it must be remembered that we are attempting to smooth out our production curve during the year, to stay within a range of 15 per cent plus or minus from the average weekly rate.

By selecting August as a factory vacation month, with a two weeks' complete shut-down, we can determine the weekly rate of production for each month throughout the year. Keeping in mind that some months are four-week and some five-week production months, you will note that our production rate per month fluctuates from about 10 per cent of the annual rate of sales in the first six months of the year, to an average

of about 7½ per cent for the last six months.

Meanwhile, stocks go to a peak of approximately 33 per cent of our total annual sales volume in March, and down to 6 per cent in August, where they again begin to increase, so that as of Dec. 31 we have approximately 21 per

tooling up not later than Aug. 1 so that actual production may be started not later than Oct. 15.

Under this arrangement, we can clear our stocks of old designs during the off-peak sales months, and be ready with new designs in all of our warehouse stocks by March 1.

The production man's dream of such an ideal situation is hard to realize, but unless one recognizes the problem, he will never come even close to its accomplishment.

Having established the fundamentals on which production is planned, the mechanical job of following through to actual schedules and controls is fairly simple.

Plan Record Form DD-27 is used to make the necessary calculations as follows:

Record Data

Each month sales are entered on the sales demand record sheets and accumulative data is brought up to date. The estimate for the year is revised, if necessary, and entered on the form. Record of stock is also entered on this form for every type of unit and cabinet on which we are planning production. The calculations necessary are a matter of simple addition and subtraction.

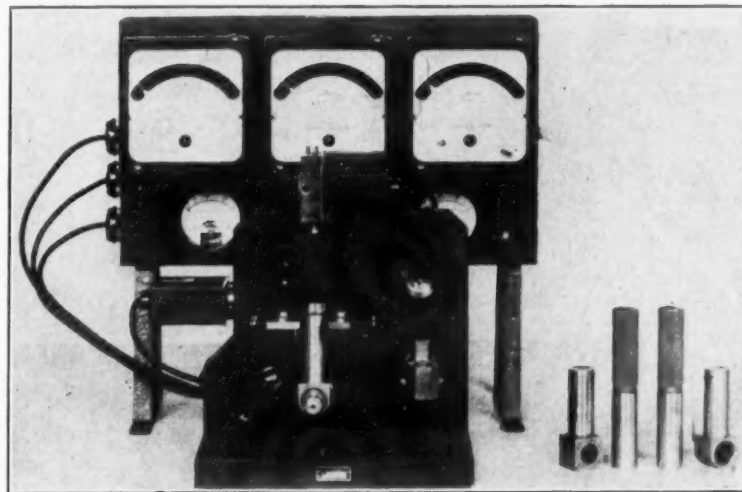
Estimated This Year's Sales minus To Date This Year's Sales equals Balance Sales. Balance Sales plus desired Year-End Stock, minus Total Actual Stock, equals Balance to Produce. Balance to Produce minus Present or Previous Schedules equals Balance to Schedule.

Balance to Schedule multiplied by the pre-determined percentage factor for the month equals Schedule for the Month. This divided by the production weeks in the month, equals the Normal Week production figures.

Production schedules are entered at the factories on the 15th of each month and cover the three following months, the last month being subject to change on the next re-issue of our production schedules.

For example: On May 15 we issued

Accuracy with Electric Gauges



Pratt & Whitney "Electrolimit" gauge stand for measuring squareness, length, and cupping of a G. E. piston. At the rear is the indicating unit, at the right are master gauges and a piston.

cent of our annual sales quantity on hand.

This graph of stock gives us about five turnovers per year, which, in my opinion, is not enough, but is as good as is now possible, unless we fluctuate our production more drastically or find some way to smooth out sales curve.

To avoid surplus stocks of items which may be obsoleted by design changes, we have placed an Aug. 1 limit on all design changes which we can control. All designs to be incorporated in the product to be offered for sale in the spring months of the following year, must be completed and ready for

production schedules for June, July, and August. June production figures on the schedule issued May 15 were exactly the same as was shown on the April 15 schedule, but July and August can be altered. The May 15 schedule definitely fixed the July production rate, but August figures may be adjusted when the next schedule is released on June 15.

The production supervisors at the factories, immediately upon receipt of their production schedules, must place their schedules with contributing departments and outside suppliers of raw material and such accessories as are bought outside.

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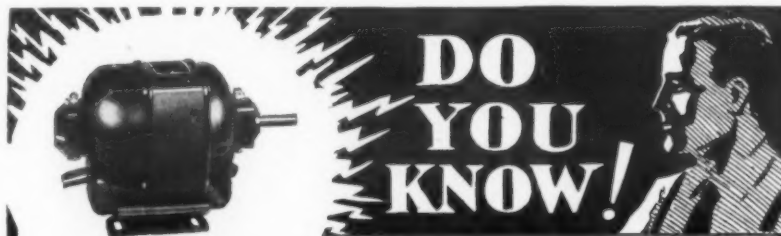
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What Every Young Inventor Ought to Know

Simple Facts About Fundamental Patent Laws Written for the Layman

By C. F. CAREY
Public Relations Counselor

FOREWORD: The following article on patents is interesting and valuable mainly because of the viewpoint of the author. To understand Mr. Carey's viewpoint it seems to be easier to explain what he is NOT rather than what he is.

First, he is not a patent attorney, although he has been engaged in patent research work for the past 10 years.

Second, he is not a lawyer, although he studied law at the University of Michigan.

Third, he is not an engineer, although he spent two years at the Michigan College of Mining and Technology.

Mr. Carey has devoted a great deal of time to the problems of industry without being a manufacturer. He has had much experience in politics without becoming an office-holder. He has been involved in many advertising campaigns and still is not an advertising man.

Mr. Carey is the kind of a man that judges seek when they want to be reelected, that college presidents advise when they want to raise an endowment fund and that business men call in when they have "a situation which needs looking into."

In general, other people's problems are Mr. Carey's business and his hobby.

Mr. Carey's advice to inventors will be particularly helpful because his opinion is unbiased. Not being engaged in patent practice, it makes no difference to him whether the facts given in the article encourage you to seek a patent or discourage you from doing so. In either case the information given will aid the inventor in avoiding much of the wasted effort and useless expense which is so frequently incurred by those who are imbued with the idea that a patent means fame and fortune.—PUBLISHER.

HUNDREDS of people have neglected to take advantage of the opportunities offered by the patent statutes and have failed to carry out and patent many valuable inventions, chiefly because they had no knowledge as to what is patentable and what steps are essential to obtaining a patent.

On the other hand, people have spent time and money on unpatentable ideas, patented valueless inventions, invested money in worthless patents, and have otherwise wasted effort in attempts to benefit under the patent laws.

While volumes on almost every phase of business activity have been printed, there have been few contributions on the subject of Patents and Patent Law which could be easily understood by the average man.

Nearly all the literature has been in the nature of text-books on the law of patents, or in the form of skillful advertising matter, the object of which has been to transfer dollars from the pocket of the inventor to that of the advertiser.

It is not intended that this information take the place of an attorney; it is not written so as to boom a patent agency; it is not a collection of legal knowledge and decisions for the special use of lawyers. It is a simple compilation of important decisions, regulations, statutes, and opinions which were originally gathered and preserved by the author for his own information and use. The result of close study of hundreds of decisions and many volumes of government publications, periodicals, text-books and private papers, they are now assembled in a manner which the writer hopes will make them a cherished possession of inventors, business men and members of the legal profession who desire enlightenment on the more salient phases of patents and patent law.

It is in times of stress, such as the world is now passing through that genius exerts itself and worth while contributions to the arts and sciences result. It is likewise in times of stress that men can least afford to give of time and money to obtain patents for valueless inventions.

We commend to your careful reading and consideration the data we have assembled in the hope that it will enable you to have a better understanding of patents—their value and their weaknesses.

If you are of an inventive mind, we suggest that you read carefully the general requirements for obtaining a patent. If you have an invention which you desire to patent, read carefully the chapters on "Patentability" and "Lack of Invention." Then ask yourself if your invention is really new, if it is really patentable, and if it would be of any particular commercial value if patented. If you then desire to make application for a patent, engage the services of a competent Registered Patent Attorney to handle the matter for you.

Only recently the Librarian of the Public Library in one of our large cities was discussing this subject with the writer. She remarked that hardly a day went by that they did not receive dozens of requests for information on how to obtain a patent. She was satisfied that the majority of these requests were

from men who had absolutely nothing of patentable value; yet, because they lacked a simple understanding of what constituted "Invention" and "Lack of Invention," they would probably use up their meager funds in an effort to obtain a patent only to find that their application would be rejected or, more likely, they would receive a valueless patent.

If through this information, we can furnish just a few of these unfortunates with a better understanding of what lies before them so they may not foolishly dissipate their time and money on something that is not worth while, we will be grateful.

WHAT IS INVENTION

Robinson's "Treatise of Patent Laws" (1890) Book I, pp. 117-118 (A Standard Reference Work), says:

"An invention is the product of original thought. It involves the spontaneous conception of some idea not previously present to the mind of the inventor.

"Industry in exploring the discoveries and acquiring the ideas of others; wise judgment in selecting and combining them; mechanical skill in applying them to practical results; none of these are creation; none of these enter into the inventive act."

In the first issue of the Official Gazette (1872), page 331, there is an excellent decision bearing on this point. In *Smith v. Elliott*, Justice Woodruff said:

"The law, however, gives no monopoly to industry, to wise judgment, or to mere mechanical skill in the use of known means, nor to the product of either if it be not new. These are within the proper field of competition, and open to all. In general they will in that competition, be justly appreciated, and will command their proper remuneration if successfully employed. It is invention of what is new, and not comparative superiority or greater excellence in what was before known, which the law protects as exclusive property, and it is that alone which is secured by patent.

"On that subject it should be observed that there are many changes which may be suggested by the judgment or taste of the manufacturer, or by the particular uses to which the article produced is to be applied, which are not invention; and many exhibitions of superior skill in producing an article of greater excellence, which are not invention. Thus, if a fabric be already known and in use, change of color, change of mere material, change of its degree of fineness, or in the fineness of the parts thereof, if these changes involve nothing new in construction, nor in the relation of its parts, nor in the office or function of either part, the whole do not constitute invention, although for many purposes these may constitute the greater excellence of the fabric."

9 Blatch. 400 (403); Fisher, 315 (318).

Without a doubt the masterpiece of all patent decisions was rendered in the case of *Atlantic Works v. Brady* (107 U. S. 199, 1882), when the Hon. Justice Bradley of the United States Supreme Court said:

"The process of development in man-

ufacture creates a constant demand for new appliances, which the skill of ordinary head-workmen and engineers is generally adequate to devise, and which, indeed, are the natural and proper outgrowth of such development.

"Each step forward prepares a way for the next, and each is usually taken by spontaneous trials and attempts in a hundred different places. To grant to a single party a monopoly of every slight advance made, except where the exercise of invention somewhat above ordinary mechanical or engineering skill is distinctly shown, is unjust in principle and injurious in its consequences.

"The design of the patent laws is to reward those who make some substantial discovery or invention which adds to our knowledge and makes a step in advance in the useful arts. Such inventions are worthy of all favor.

"It is never the object of those laws to grant a monopoly of every trifling device, every shadow of a shade of an idea which would naturally and spontaneously occur to any skilled mechanic or operator in the ordinary progress of manufacture. Such an indiscriminate creation of exclusive privileges tends rather to obstruct than to stimulate invention.

"It creates a class of speculative schemers who make it their business to watch the advancing wave of improvement, and gather its foam in the form of patented monopolies, which enable them to lay a heavy tax upon the industry of the country without contributing anything to the real advancement of the arts. It embarrasses the honest pursuit of business with fears and apprehensions of concealed liens and unknown liabilities to lawsuits and vexatious accounting for profits made in good faith."

This remarkable decision should be read over and over again, by everyone interested in patents or engaged in business. After 50 years it still stands the acid test and is continuously referred to by the courts.

LACK OF INVENTION

Having before us the definition of Robinson and the famous decisions of Justices Woodruff and Bradley to give us a fairly good idea of what is "Invention," we will now consider some of the things which constitute "Lack of Invention" and are therefore unpatentable.

Again we refer to Robinson and find that he says, and backs up his statements with hundreds of decisions, that:

"It is not invention to combine old devices into a new machine or manufacture, without producing any new mode of operation."

"It is not invention to use an old process, machine, manufacture, composition of matter, or design, for a new and analogous purpose."

"It is not invention to produce a process, machine, manufacture, composition of matter or design which any skilled mechanic, electrician, chemist, or other expert would produce whenever required."

"It is not invention to change the size or degree of a thing, or of any feature or function of a machine or manufacture."

"It is not invention to so enlarge and strengthen a machine that it will operate on larger material than before."

"It is not invention to change a process, machine, manufacture or composition of matter, by substituting an equivalent for either of its parts; unless the new part, not only performs the function of the part for which it was substituted, but also performs another function, by another mode of operation."

"It is not invention to substitute su-

perior for inferior materials, in making one or more or all the parts of a machine or manufacture."

"It is not invention to substitute one well-known form of a material, for another well-known form of the same material."

PATENTABILITY

In Walker's "Patent Law" (1904) p. 52 (a text-book constantly referred to by the courts), the author says:

"A patent can only be granted for an invention, but it is not every invention that can be patented.

"To be patentable an invention must be a 'manner of new manufacture' within the meaning of section 6 of the Statute of Monopolies: this means in the first place that it must be an article or process of or relating to manufacture, and in the second place that it must be new.

"Where a claim is clearly for the combination of certain definite parts or elements, the protection thereby granted is for the entire combination and not for the parts or elements by themselves or for other combinations thereof."

The actual question of patentability is one of great difficulty and one which can only be decided after protracted suits in the courts in a number of cases. This uncertainty of patentability and the protection which can be obtained is a grave problem at the present time, in fact it has resulted in many people claiming that all patents are worthless until they have been proved in the courts.

Even inventors with some experience are bothered about the subject of patentability and the scope of a patent. The question of patentability should, therefore, be very carefully considered by the inventor, before spending time and money upon an idea, for the very reason that it decides whether an invention is patentable or not and also decides the value of the invention.

(Concluded on Page 6, Column 1)



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Copper Hydrogen Electric Welding is both an economy and an up-to-date selling feature of unusual merit.

By this process steel parts are welded with pure copper at all points of contact.

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What Inventors Ought to Know

(Concluded from Page 5, Column 3)
WHO MAY OBTAIN A PATENT

The law provides that:

"Any person who has invented or discovered any new and useful art, machine, manufacture, or composition of matter, or any new and useful improvement thereof, or who has invented or discovered and asexually reproduced any distinct and new variety of plant, other than a tuber-propagated plant, now known or used by others in this country, before his invention or discovery thereof, and not patented or described in any printed publication in this or any foreign country, before his invention or discovery thereof, or more than two (2) years prior to his application and not in public use or on sale in this country for more than two (2) years prior to his application, unless the same is proved to have been abandoned, may upon payment of the fees required by law, and other due proceeding had, obtain a patent therefor." (R. S. Sec. 4886.)

"When an inventor dies the application may be made by, and the patent will issue to, his executor or administrator, who will make the oath. When he dies after filing his application the patent will issue to the executor or administrator upon filing proper papers."

"Joint inventors are entitled to a joint patent; neither of them can obtain a patent for an invention jointly invented by them. Independent inventors of distinct and independent improvements in the same machine can not obtain a joint patent for their separate invention."

From "General Information Concerning Patents," issued by Commissioner of Patents, March, 1931.

REQUISITES OF PATENT APPLICATION

"Before any inventor or discoverer shall receive a patent for his invention or discovery, he shall make application therefor, in writing, to the Commissioner of Patents, and shall file in the Patent Office a written description of the same, and of the manner and process of making, constructing, compounding, and using it, in such FULL, CLEAR, CONCISE, AND EXACT TERMS AS TO ENABLE ANY PERSON SKILLED IN THE ART OR SCIENCE TO WHICH IT APPERTAINS, OR WITH WHICH IT IS MOST NEARLY CONNECTED, TO MAKE, CONSTRUCT, COMPOUND, AND USE THE SAME; and in case of a machine, he shall explain the principle thereof, and the best mode in which he has contemplated applying that principle, so as to distinguish it from other inventions; and he shall particularly point out and distinctly claim the part, improvement, or combination which he claims as his invention or discovery. The specification and claim shall be signed by the inventor."

(R. S. Sec. 4888; Acts July 8, 1870, c. 230, Sec. 26, 16 Stat. 201; March 3, 1915, c. 94; Sec. 1, 38 Stat. 958.)

"The detailed description of the invention must be full enough, and clear enough, and concise enough, and exact enough, to enable any person skilled in the art or science to which it appertains or with which it is most nearly connected, to make and use the invention, if it is a composition of matter, or to perform the invention, if it is a process, (R. S. Sec. 4888) or to identify the invention, if it is a design."

"If the description falls below this standard, the patent, if granted, will be void."—O'Reilly v. Morse, 15 Howard, 62,—1853.

A patent is granted only upon a regularly filed application, complete in all respects, upon payment of the fees, and only after a determination of utility and completeness of disclosure of the invention and a search to determine its novelty.

No patent is granted upon a mere idea or a suggestion. There must be a complete description of the invention, and it must be accompanied by drawings suitably illustrating the same, if it is

of a machine or other device that can be illustrated. If the device is not operative and not clearly set forth as to make it capable of manufacture from the description, no patent can issue.

PREPARATION OF PATENT APPLICATION

An application for patent must be made by the inventor only, and no person who has not actually created a portion of the invention is entitled to be considered as a joint inventor.

A patent issued to more than one inventor where only one has actually invented the device is invalid.

A person who makes a financial contribution merely is not a joint inventor, but the invention may be assigned to him.

The preparation of an application is a highly complex proceeding and generally can not be conducted properly except by an attorney trained in this specialized practice.

The inventor, therefore, is advised to employ a competent patent attorney who is registered, as without skillful preparation of the specification and claims a patent grant is of doubtful value.

In this connection it is best to employ a local patent attorney, particularly if your invention relates to machinery. This enables you to avail yourself of the personal service of your attorney at all times. If you do not know of such a man in whom you can place full confidence—for he must have that in order to help you, perhaps your lawyer, banker, or local Chamber of Commerce can refer you to one. If not, then you can obtain from the Patent Office upon payment of a fee of 20 cents, a complete list of Registered Patent attorneys and select one from the names listed in your city.

The Pitfalls Of Patents

A patent is of value only if it is a GOOD patent on a GOOD invention. It is valueless if either of these two fundamentals are lacking.

Inventions are good only if they have a commercial value—either a present one or a value which may be developed.

A person may obtain a legally good patent upon a commercially worthless invention. Likewise, they may obtain a worthless patent upon a really good invention. In either case the patent is not GOOD in the accepted sense.

THE DOCTRINE OF EQUIVALENTS

The only steps taken to protect prior inventors in regard to the issuance of improvement patents is to refuse patents for equivalents and similar matter which have been repeatedly held as non-patentable.

In his "Treatise of Patent Laws" (1890) Robinson gives the definition of an equivalent as: "any act or substance which is known in the arts as a proper substitute for some other act or substance employed already as an element in an invention, and whose substitution for that other act or substance does not in any manner vary the idea of means."

"It must be capable of performing the same office in the invention as the act or substance whose place it supplies."

"It must relate to the form of embodiment alone and not affect in any degree the idea of means."

"It must have been known in the arts, at the date of the patent, as endowed with this capability, or have subsequently become so known without the further exercise of inventive skill."

"An inventor, without describing equi-

valents in a patent, is entitled to be protected in their use and to treat their use by others as an infringement."—Union Met. Cartridge Co., v. U. S. Car. Co., 11 O. G. 1113.

"Equivalents are such ingredients as will perform the same function as the one described and which were well known at the date of the patent as proper substitutes for the ones actually described in the patent."—Gill v. Wells, 22 Wall. 28. Id.

PATENT OFFICE INTERFERENCE

According to the Rules of Practice of the Patent Office, "An interference is a proceeding instituted for the purpose of determining the question of priority of invention between two or more parties claiming substantially the same patentable invention."

The patent generally issues to the person who was the first to conceive an invention and reduce it to practice. To ascertain this the Patent Office has found it necessary to work out an elaborate code of rules to solve the vexing question of priority.

The time to think about an interference proceeding is not when an interference is declared, but at the time you take the first steps to work out your invention.

Make a note of the date you first conceived your invention. At your first opportunity make a written description of your invention. Date it. Make a drawing. Date that. Explain your idea to two or more friends you can trust. Be sure they understand it and could be called upon to describe it if they were called upon to testify. Get them to attach their signatures as witnesses to your description and drawings. Sign the drawing yourself. It is even a good idea to swear to it before a notary public. If you make any models, keep them, making a note of the date they were constructed. If you make any improvement in your original invention, set down the date of that, but keep the record you first made of your invention, too. Remember it is the evidence of first invention and use that counts in an interference proceeding.

THE ALLOWANCE OF A PATENT

A patent grant gives the inventor the right to exclude all others from making, using, or selling his invention for the term of 17 years, but it does not give the patentee the right to make, use, and sell his own invention if it is an improvement on some unexpired patent whose claims are infringed thereby. The Patent Office in its investigation preceding the issue of a patent does not consider whether the invention infringes prior patents. It merely ascertains that the invention is worthy of a patent.

Many people consider this a weakness in our patent procedure since it practically means that some sort of a contest or suit or at least an undisputable after-examination is necessary to establish the validity of a patent.

ABOUT INFRINGEMENT

A patent does not give you the right to make, use and sell your invention. This right was yours by common law. What the patent gives you is the right to prevent others from making, using, or selling your invention. Without a patent you have no right to sue the man who pirates your idea.

Inventors unskilled in patent matters are likely to think that a patent automatically becomes valid when it is issued by the Patent Office. The Patent Office assumes no responsibility in that regard and gives no assurance whatever of validity. A patent is a contract. It is for the courts to uphold or upset the validity of the contract if it should be called into question by an infringement suit.

"Strictly speaking, infringement of a patent is an erroneous phrase," Judge Inch in the Federal District Court in Brooklyn declared in dismissing an infringement suit brought by the Radio Corp. of America against the Twentieth Century Radio Corp. "What is infringed is the claim which is the definition of invention, and it is the claim which is the course of action."

At present one part of the Federal Government, the Patent Office, grants patents to alleged inventors, whereas another branch of the government, the Federal Court System, declares many of them invalid. In effect, the United States repudiates through its courts its action taken through its Patent Office.

This is the first instalment of an article on Patents and Patent Law by C. F. Carey, public relations counselor. The second instalment will appear in the Engineering Section of Electric Refrigeration News, June 15, 1932. Copyrighted, 1932, by Business News Publishing Co. All rights reserved.

New Jewetts Appear At R.M.A. Show

CHICAGO—Two models of the standard line of Jewett's new electric refrigerators, and two de luxe models, made their first public appearance in the Middle West here last week during the show of the Radio Manufacturers' Association.

In attendance at the Jewett exhibit on Michigan Ave. were Edgar B. Jewett, president of the Jewett Refrigerator Co., Joseph F. Weller, president of the Kellogg Mfg. Co., which supplies the compressor units, and Jack and Myron Studner of Studner Bros., national distributing organization for Jewett.

The standard models are made in 4½- and 5½- cu. ft. net sizes, selling for \$129.50 and \$179.50, installed.

Adjustable shelves are featured in the cabinets, various shelf levels being obtained by changing the setting of shelf supports which attach to the aluminum breaker strips. Mr. Jewett pointed out. Fastened beneath the aluminum door breakers are rubber strips, the outside edge of which face the rubber gasket of the door to form a double seal, he showed.

A joint development of Jewett and McCord Radiator engineers is the cooling unit which has a separate finned tube section directly above the ice cube compartment. The additional cooling surface provided by the finned coil is intended to prevent excessive dehydration of food. A porcelain-on-steel baffle plate conceals the cooling unit.

Standard equipment on the Jewett refrigerators are Ranco controls, American Radiator expansion valves, and Kellogg compressors with 1/6-hp. Delco motors, Bush condensers and receivers, and methyl chloride.

The cabinets are insulated with 2½ in. of Temlok in the 4½-ft. model, and 3 in. of Temlok in the 5-ft. model. The exterior finish is of lacquer supplied by Lowe Bros. of Cincinnati. The Grand Rapids Brass hardware is featured by Bakelite latch handles.

The de luxe models provide 8 and 10 cu. ft. of net food storage capacity, and are priced at \$540 and \$560 f. o. b. Buffalo. The 8-ft. model has 13 sq. ft. of shelf area, while the larger model has 15 sq. ft. in shelf area.

Dimensions of the small de luxe refrigerator are 40 in. wide, 25 in. deep,

WESSBLAD'S APPEAL IS GRANTED BY COURT

WASHINGTON, D. C.—A ruling of the Board of Patent Appeals denying the application of Karl Alexander Wessblad for a patent on improvements in refrigerating apparatus has been reversed by the U. S. Court of Customs and Patent Appeals in a decision handed down by Associate Judge Charles S. Hatfield.

The sole issue before him, Judge Hatfield ruled, related to the particular form of cooling means in combination with an absorption refrigerating apparatus. The question was whether the invention was involved in modifying the Von Platen disclosure by substituting for its cooling system apparatus disclosed in the patent of Darlington.

The decision of the court was based on the finding that it was inconsistent for the board of appeals to hold the claims unpatentable when it was not denied that they are novel and useful.

The involved patent is described in the language of the patent office as follows:

"A refrigerating apparatus comprising a generator, an absorber, a refrigerant, condenser, an evaporator, all connected by conduits to form a closed system and a second system consisting of a closed hermetically sealed vaporization-condensation cycle comprising a chamber and an air-cooled condenser situated above said chamber and connected thereto, said second system containing a volatile liquid and said refrigerant condenser of the first-mentioned system being contained within said chamber of the second system."

and 70 in. high; the large one is 42 in. wide, 25 in. deep, and 70 in. high. Exteriors are porcelain.

The de luxe sizes are furnished with solid molded porcelain liners, 1¼ in. thick, such as featured in the established line of Jewett ice and mechanical refrigerator cabinets.

Comprising a wall of the de luxe cabinets are 1¼ in. of solid porcelain, 1½ in. of sheet cork, ¾ in. of spruce, 1 in. of sheet cork, each material being separated with insulating paper, Mr. Jewett explained.

One deep ice cube tray making 56 ice cubes, and three standard trays each providing 28 cubes are furnished with the de luxe refrigerators.



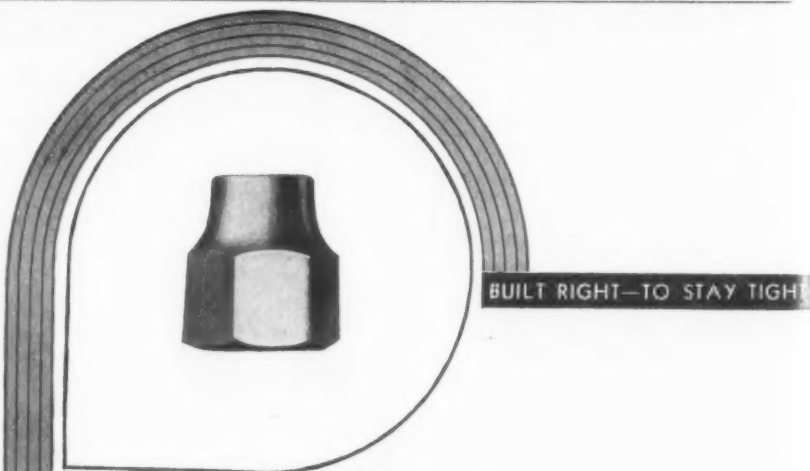
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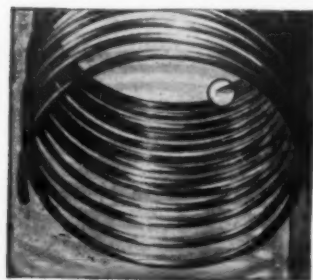
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French Copper Tubes

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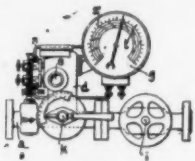
There are French Copper Refrigeration Tubes . . . small diameter and thin wall seamless tubes . . . for every refrigeration requirement. Stock sizes are 1/4 in., 3/8 in., 7/16 in., 1/2 in., 5/8 in. and 3/4 in., all in .035 gauge. Heavier gauges can be made to order. Stock coils are 25, 50 and 100 ft. long. Other lengths can be supplied on short notice. Additional information on request. The French Manufacturing Company, General Offices: Waterbury, Connecticut.

FRENCH REFRIGERATION TUBES

Latest Patents in Electric Refrigeration

ISSUED MAY 10, 1932

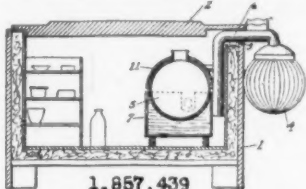
1,857,262. APPARATUS FOR MEASURING THE OUTPUT OF REFRIGERATING MACHINES. Friedrich Schipper, Wiesbaden, Germany. Filed Jan. 6, 1927. Serial No. 159,474, and in Germany July 21, 1926. 4 Claims. (Cl. 88-14.)



1,857,262

1. In a refrigerating machine flow meter for the evaporating medium, the combination of a vertical pipe having a restriction therein and an inspection glass opening in the wall thereof in advance of said restriction, the wall of said pipe having another opening therein, and an illuminating device arranged to throw light through the last named opening into the interior of the pipe normally to the optical axis of said inspection glass.

1,857,439. REFRIGERATING DEVICE. Lewis M. Crosley, Cincinnati, Ohio, assignor to The Crosley Radio Corp., Cincinnati, Ohio, a Corporation of Ohio. Filed Nov. 19, 1928. Serial No. 320,312. 5 Claims. (Cl. 62-120.)



1,857,439

to The Crosley Radio Corp., Cincinnati, Ohio, a Corporation of Ohio. Filed Nov. 19, 1928. Serial No. 320,312. 5 Claims. (Cl. 62-120.)

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Testing Laboratory
For refrigerators
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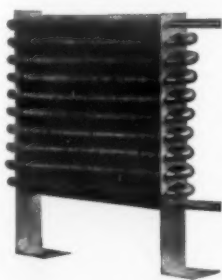
PATENTS

Searches, Reports, Opinions by a
Specialist in REFRIGERATION
H. R. VAN DEVENTER
Solicitor of Patents - Refrigeration Engineer
342 MADISON AVE. NEW YORK

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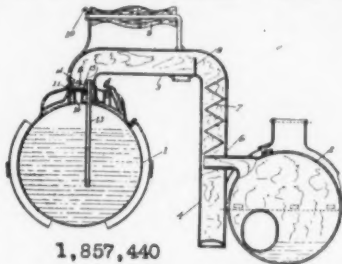
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Representatives

1. In an absorption system refrigeration device comprising a cooling box and a removable unit having, when installed with the cooling box, a generator-absorber outside the cooling box, and a condenser-evaporator inside the cooling box, solid surfaced means within the box for retarding absorption of heat by said condenser-evaporator.

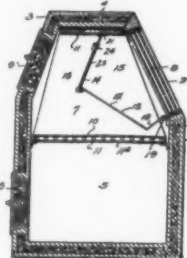
1,857,440. REFRIGERATION DEVICE. Lewis M. Crosley, Cincinnati, Ohio, assignor to The Crosley Radio Corp., Cincinnati, Ohio, a Corporation of Ohio. Filed Nov. 19, 1928. Serial No. 320,313. 6 Claims. (Cl. 62-120.)



1,857,440

1. In an absorption system refrigeration device the combination of a generator-absorber chamber, a condenser-evaporator chamber, a conduit between them, means for establishing a liquid seal between the interior of the conduit and the generator-absorber chamber, a passageway from the generator-absorber chamber terminating at a point below the level of said seal, and a valve for said passageway.

1,857,545. REFRIGERATOR SHOW CASE. Clement V. Hill, Trenton, N. J., assignor to C. V. Hill & Co., Inc., Trenton, N. J., a Corporation of New Jersey. Filed Oct. 9, 1930. Serial No. 497,579. 13 Claims. (Cl. 62-89.5.)



1,857,545

1. A refrigerator show case having a refrigerating chamber provided with a display panel and a door, a jacketed refrigerating coil in said chamber in the form of a loop bounding the top and bottom of the chamber and sides of the chamber except those in which the panel and door are arranged, and a baffle partition disposed in said chamber between the door and panel and separating the same into storage and display compartments.

1,857,894. ICE SCORING MACHINE. Michael J. Uline, Toledo, Ohio, assignor, by mesne assignments, to Gifford-Wood Co., Hudson, N. Y., a Corporation of New York. Filed July 2, 1923. Serial No. 649,138. Renewed April 3, 1928. 36 Claims. (Cl. 125-14.)

1,858,005. CONTROL MEANS. Lewis W. Eggleston, Detroit, Mich., assignor to American Radiator Co., New York, N. Y., a Corporation of New Jersey. Filed April 11, 1927. Serial No. 182,882. 12 Claims. (Cl. 200-140.)

1. A control switch comprising a make-and-break device adapted to control a circuit, means to actuate said device, a catch receptacle associated with said device, and means whereby disassociation of said receptacle from said device breaks the circuit through said device.

1,858,023. AIR CONDITIONING APPARATUS FOR STORAGE ROOMS. Charles A. Moore, Edina, Minn. Filed March 18, 1924. Serial No. 700,060. Renewed Dec. 2, 1929. 49 Claims. (Cl. 257-8.)

1. In an apparatus of the class described, the combination with a structure constituting a plurality of superimposed storage rooms, a housing superimposing said structure, a partition in said housing forming a first chamber and a second chamber, said partition having an upper and a lower port therethrough, an adjustable closure for each port, a pair of conduits for each room, each conduit having a horizontal branch reaching through the upper portion of its respective room, one conduit communicating with the second chamber at the bottom thereof and having a longitudinal opening in the lower side of its horizontal branch, the other conduit communicating with the first chamber

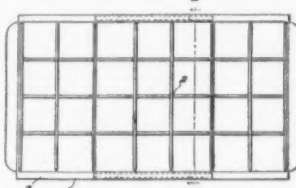
at the top thereof and having a longitudinal opening in the upper side of its horizontal branch, an appliance in the first chamber including two upright ducts, means for affecting the temperature thereof, one duct having a valved opening at the lower portion thereof in communication with the first chamber, valved means associated with said ducts and selectively adapted to bring the upper ends thereof into communication with the outer air and with the first chamber, valved means associated with the lower end of the second duct and adapted selectively to bring the same into communication with the outer air, the first chamber and the first duct, a pair of upright pipes in the second chamber, valves at the ends of said pipes, inter-chamber ducts for said pipes, each inter-chamber duct being joined at one extremity with its respective pipe near the upper end thereof and having branches at its other end connected with the appliance ducts near their upper ends, valves in said duct branches, temperature affecting means in the second chamber and blower mechanisms selectively operable for blowing air into the second chamber from the first chamber and vice versa.

49. In combination, a storage room, a source of supply of temperature affected air, two conduits, one an air ingress conduit leading from said source to the room and the other an air egress conduit leading from the room back to said source, said conduits communicating at the same proximity, though at different levels, with the interior of the room, through one wall of the room near the ceiling and midway between other opposite walls of the room.

1,858,061. EVAPORATOR. Julius Roemer, Lakewood, Ohio. Filed May 6, 1929. Serial No. 360,965. 11 Claims. (Cl. 257-181.)

5. An evaporator comprising: two upwardly converging intersecting annular walls; a series of annular fins disposed on each annular wall forming a series of annular troughs each positioned to underlie the trough next above, whereby liquid introduced into the top trough of each annular wall will fill such top trough and then overflow into the troughs below, and the liquid contained in said troughs is spread over areas totalling substantially greater than the combined horizontal area subtended by both said walls; and means for introducing water into such top trough of said walls.

1,858,124. ICE CUBE TRAY. Henry B. Turner, Lawton, Okla. Filed Feb. 4, 1931. Serial No. 513,423. 1 Claim. (Cl. 62-108.5.)



1,858,124

A tray of the class described having grids therein providing ice cube compartments, said tray being made up of a number of sections having their ends confronting and having their edges rounded to provide the same with beads and rods fixed in certain of the beads, projecting therefrom and received in the beads of the cooperating tray sections.

TRADE MARK

294,013. (CLASS 31. FILTERS AND REFRIGERATORS.) McKee Refrigerator Co., Brooklyn and Cobleskill, N. Y. Filed Mar. 2, 1929. Serial No. 280,185.

ICED-AIRE

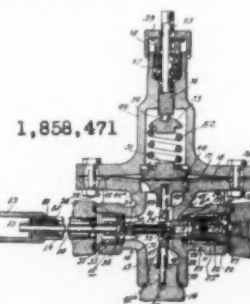
For Refrigerators.
Claims use since Feb. 19, 1929.

ISSUED MAY 17, 1932

1,858,329. HUMIDIFIER. Frank J. Hoerling, Dayton, Ohio. Filed March 2, 1931. Serial No. 519,388. 3 Claims. (Cl. 261-115.)

1. In combination, a humidifier chamber, a scrubber chamber connected to the humidifier chamber, a scrubber and scrubber frame slidably mounted in said scrubber chamber and means for causing the entry and removal of the scrubber from the scrubber chamber through said humidifier chamber, said humidifier chamber having a detachable cover closing, an opening through which said scrubber can be introduced and removed and an air inlet opening in which water spray means are located.

1,858,471. EXPANSION VALVE. Romeyn L. Smith, New Brunswick, N. J., assignor to Brunswick-Kroeschell Co., New Brunswick, N. J., a Corporation of New Jersey. Filed May 28, 1930. Serial No. 456,328. 13 Claims. (Cl. 50-23.)



1,858,471

1. A valve comprising a casing enclosing a chamber, a diaphragm constituting one wall of the chamber, an inlet and an outlet passage for said chamber, a seat with a port at said inlet passage, a diaphragm controlled member with a port to cooperate with the port in the said seat, and a tubular member extending from said outlet passage and con-

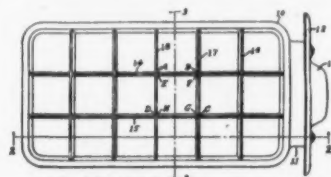
trolled by said diaphragm controlled member as to communication with the port in the seat.

9. A valve comprising a casing enclosing a chamber and having an inlet and an outlet, a diaphragm constituting one wall of the chamber, a diaphragm controlled member for controlling said inlet, a delivery tube connected with said outlet but thermally insulated therefrom, and an outer tube surrounding said delivery tube, said outer tube being connected with said casing and thermally insulated from said delivery tube.

1,858,517. REFRIGERATING SYSTEM. Henry H. Marshall, Highland Park, N. J., assignor to Brunswick-Kroeschell Co., New Brunswick, N. J., a Corporation of New Jersey. Filed June 25, 1930. Serial No. 463,678. 8 Claims. (Cl. 62-115.)

1. In a refrigerating system including a compressor, an evaporator, and a suction line leading from the evaporator to the compressor, means for controlling the effective capacity of the compressor, such controlling means including an automatic pressure valve for varying the passage of refrigerant in said suction line to control the evaporator pressure and another valve for admitting gas into said suction line for decreasing the capacity of the compressor.

1,858,558. REFRIGERATING APPARATUS. Donald H. Reeves, Dayton, Ohio, assignor to Frigidaire Corp., Dayton, Ohio, a Corporation of Delaware. Filed Dec. 31, 1928. Serial No. 329,348. 4 Claims. (Cl. 62-108.5.)



1,858,558

1. An ice-making container for domestic mechanical refrigerators comprising a tray and partitions dividing the tray into compartments for forming ice blocks, said partitions being of uniform thickness and diverging from one another to form tapering compartments.

1,858,610. REFRIGERATION AND STORAGE AND CARRIAGE OF GASOLINE AND OTHER VOLATILE MATERIALS. Thomas A. Banning, Jr., Wilmette, Ill., assignor to Dryice Equipment Corp., New York, N. Y., a Corporation of Delaware. Filed Apr. 16, 1928. Serial No. 270,352. 29 Claims. (Cl. 62-91.5.)

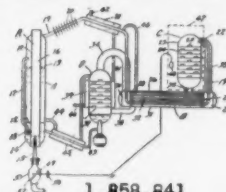
11. In a tank for the retention of liquids, a dome reaching upwardly therefrom and having its interior in communication with the interior of the tank above the normal level of liquid therein, a body of solid carbon dioxide within said dome and above the level of liquid within the tank, and means for supporting said body in such position, substantially as described.

1,858,802. REFRIGERATOR CAR. Charles David Bonsall, Pittsburgh, Pa., assignor to P. H. Murphy Co., New Kensington, Pa., a Corporation of Pennsylvania. Filed Jan. 22, 1931. Serial No. 510,388. 16 Claims. (Cl. 108-5.)

1. A refrigerator car comprising side plates, carlines connecting side plates, a single course metal roof extending from side plate to side plate above said carlines, and insulation substantially filling the space between the tops of said carlines and the underside of said single course metal roof.

1,858,841. REFRIGERATION. Harry C. Pierce, Rutherford, N. J., assignor to Elec-

trolux Servel Corp., New York, N. Y., a Corporation of Delaware. Filed June 13, 1928. Serial No. 285,002. 6 Claims. (Cl. 62-119.5.)



1,858,841

2. An absorption refrigerating system comprising a generator, a condenser, an evaporator, an absorber and conduits connecting said generator, condenser, evaporator and absorber including conduits for circulating an inert gas between and through said evaporator and said absorber, said generator comprising a main chamber and an auxiliary circulating chamber and having a flue extending through both said chambers, a burner located adjacent to one end of the flue and heat radiating means located in the flue and adapted to be heated to incandescence by heat from the burner, said heat radiating means being arranged so that the major portion of the radiant heat therefrom is directed against the wall of one of said chambers.

1,858,904. COMPRESSOR WITHOUT GLANDS FOR USE ESPECIALLY IN REFRIGERATING MACHINES. Ludwig Roebel, Mannheim, Germany. Filed July 31, 1930. Serial No. 471,952, and in Germany Aug. 5, 1929. 6 Claims. (Cl. 62-115.)

1. In a refrigerating machine, the combination with a closed condenser, a closed vaporizer, and a closed compressor, of a hollow shaft constituting a passage for the flow of refrigerating fluid from the vaporizer to the compressor and comprising a support for the said vaporizer and compressor and condenser, and a conduit extending through said shaft comprising a passage for the flow of refrigerating fluid from said condenser to said vaporizer.

1,858,906. REFRIGERATOR DOOR. Walter G. Seeger, St. Paul, Minn., assignor to Seeger Refrigerator Co., St. Paul, Minn., a Corporation of Minnesota. Filed Dec. 14, 1927. Serial No. 239,944. 7 Claims. (Cl. 20-35.)

1. A door including, an outer and an inner enameled plate, said outer plate having an annular reinforcing edge formed thereabout, an insulating frame having each side thereof of integral construction, and means for securing the inner plate with its edges extending into said frame.

1,859,012. PACKING FOR ROTATING SHAFTS. Carl J. Winkler, Indianapolis, Ind., assignor to Schwitzer-Cummins Co., Indianapolis, Ind., a Corporation. Filed Jan. 26, 1931. Serial No. 511,158. 8 Claims. (Cl. 286-7.)

2. The combination with a rotatable shaft and a bearing for supporting the same, of a packing structure comprising a sleeve adapted to bear directly against said bearing, packing material positioned within said sleeve and surrounding the shaft for providing a seal therebetween, and means keyed to said shaft and removably interlocked with said sleeve for causing said sleeve and the packing material contained therein to rotate with said shaft.

1,859,229. LIQUID COOLING APPARATUS. Charles E. Bonine, Melrose Park, Cheltenham Township, Montgomery County, Pa., assignor to James H. Bell, Philadelphia, Pa. (Continued on Page 8, Column 3)

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